TECHNOLOGY DEPT.

May 14, 1941

NATIONAL PETROLEUM NEWS

PUBLIC LIBRARY
MAY 15 1941
DETROIT

STANDARD ENGINE TEST NEEDED FOR MOTOR OILS

Rapid development in lubricating oils shows need for standardization in evaluation of motor oils and of engine conditions during tests.

Page R-146

• • •

VETERAN LUBRICANT CHEMIST HONORED BY A. C. S. SECTION

Page R-152

• • •

ALKYLATION FEED STOCK PRODUCED IN NATURAL GASOLINE PLANTS

Page R-153

NEWS IN BRIEF

Mid-Year meeting of American Petroleum Institute in Tulsa, May 19-22, will view 'everyday' refinery problems. Page 13.

* * *

Glass replica of modern refinery permits study of intricacies of refining processes. Page 15.

* * *

Illinois' Gov. Green, in introducing bill for conservation without proration, sees no oil waste and no reason to restrict state's production. Page 7.

* * *

New Oklahoma oil discovery brings "folding money" to Tecumseh. Page 8.

California producers cite production loss in seeking crude price advance. Page 14.

* * *

Price chief Henderson and oil industry representatives score proposed 1c increase in federal 'gas' tax. Page 10.

* * *

Maritime Commission keeps its 'thumb' on coastwise tanker rates. Page 5.

* * *

Cotton Valley recycling plant to start operations soon. Page 15.

REFINING TECHNOLOGY EDITION

The PLANT BEHIND THE PRODUCT--

THE plant in which ERIE products are made is modern ..... equipped with the latest production machinery. Actual working floor space has been tripled in the period from 1929 to 1941.

ERIE

METER SYSTEMS, INC. •
ERIE PENNA.
WESTERN PLANT, TULSA, OKLA.

DIVISION OFFICES: NEW YORK, CHICAGO, DETROIT, CLEVELAND, NEW ORLEANS, TULSA
BOSTON, ATLANTA, RICHMOND VIRGINIA, HOUSTON, DENVER, OAKLAND, CALIFORNIA

COMING MEETINGS

MAY

American Institute of Chemical Engineers, 33rd Semi-Annual Meeting, Edgewater Beach Hotel, Chicago, Ill., Mon.-Wed., May 19-21.

American Petroleum Institute, 11th Mid-Year Meeting, Mayo Hotel, Tulsa, Okla., Mon.-Fri., May 19-22.

National Assn. of Purchasing Agents, (Oil Company Buyers' Group) Stevens Hotel, Chicago, Mon.-Thurs., May 26-29.

National Oil Scouts & Land Men's Assn., Dallas, Tex., Thurs.-Sat., May 29-31.

JUNE

Society of Automotive Engineers, Summer Meeting, The Greenbrier, White Sulphur Springs, W. Va., Sun.-Fri., June 1-6.

Illinois-Indiana Petroleum Assn., 9th Annual Petroleum Conference, Robinson, Ill., Sat., June 7.

Liquefied Petroleum Gas Assn., Inc., Pacific Coast Section, Fairmont Hotel, San Francisco, Calif., Mon.-Tues., June 9-10.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 10.

American Society of Mechanical Engineers, Petroleum Division, Kansas City, Mo., Mon.-Fri., June 16-20.

Pennsylvania Grade Crude Oil Assn., Annual Meeting, Bradford, Pa., Thurs.-Fri., June 19-20.

Kentucky Oil & Gas Assn., Mid-Year Meeting, Lexington, Ky., Fri.-Sat., June 20-21.

American Society for Testing Materials, 44th Annual Meeting, Palmer House, Chicago, Ill., Mon.-Fri., June 23-27.

New Jersey Oil Trade Assn., Spring Golf Outing and Dinner, Suburban Golf Club, Union, N. J., Tues., June 24.

AUGUST

National Assn. of Petroleum Retailers, 9th Annual Convention, La Salle Hotel, Chicago, Ill., Tues-Thurs., Aug. 19-21.

SEPTEMBER

American Chemical Society, Atlantic City, N. J., Mon.-Fri., Sept. 8-12.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, Pelham Manor, N. Y., Tues., Sept. 9.

National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed-Fri., Sept. 17-19.

Society of Automotive Engineers, National Tractor Meeting, Schroeder Hotel, Milwaukee, Wis., Thurs.-Fri., Sept. 25-26.

New Jersey Oil Trade Assn., Fall Golf Outing and Dinner, Suburban Golf Club, Union, N. J., Fri., Sept. 26.

National Lubricating Grease Institute, 9th Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Tues., Sept. 29-30.

OCTOBER

Texas Mid-Continent Oil & Gas Assn., Beaumont, Tex., Tues.-Thurs., Oct. 9-11.

American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas, Tex., Thurs.-Sat., Oct. 16-18.

Society of Automotive Engineers, National Aircraft Production Meeting, Baltimore Hotel, Los Angeles, Calif., Thurs.-Sat., Oct. 30-Nov. 1.

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Oct. 31.

NOVEMBER

American Institute of Chemical Engineers, 34th annual meeting, Cavalier Hotel, Virginia Beach, Va., Mon.-Wed., Nov. 3-5.

American Petroleum Institute, 22nd Annual Meeting, San Francisco, Calif., Mon.-Fri., Nov. 3-7.

American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov. 6-7.

DECEMBER

New Mexico Oil & Gas Assn., Artesia, New Mex., Wed., Dec. 3.

NATIONAL PETROLEUM NEWS

MAY 14, 1941

NEWS

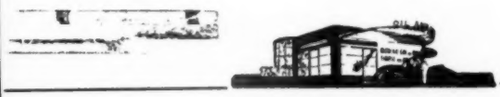
Oil Prices Studied Following Transfer of Tankers to Aid Britain 5
Rails to Publish 'Maximum' Rate Schedule Effective on 10-Day Notice 5
Cole May Introduce Bill to Ease Southeastern Pipeline Situation 5
New Oklahoma Oil Field Brings Prosperity to Tecumseh 8
Price Administrator Henderson Scores Proposed 1c Gasoline Tax Hike 10
Mid-Year Meeting of A.P.I. to View 'Everyday' Refinery Problems 13
Oil Marketing Problems Discussed at Meeting of Independent Oil Men's Assn. of New England 13
California Producer Groups Seek Increased Crude Advance 14
Four Pacific Coast Tankers Transferred to Atlantic Runs 17
Tanker Construction at All-Time High with 142 Ships Being Built 17

MERCHANDISING

Soldiers and Ships Bring New Boom to Wilmington, N. C., Oil Marketers 18
Merchandising Forum 34
Season's Heating Oil Requirements are Below Normal 38

MARKETS

Mid-Continent 39
Gulf 39
Atlantic Coast 39
Pennsylvania 39
Mid-Western 39
California 39
Refinery Prices 40, 41
Seaboard Prices 42
Tank Wagon Prices 43, 44
Crude Prices 45, 46



Copyright 1941 by The National Petroleum Publishing Co.
Trade Mark Registered U. S. Patent Office.

Published every Wednesday by The National Petroleum Publishing Co.

WARREN C. PLATT, *Editor and Publisher*
V. B. GUTHRIE, *Managing Editor*

Member of Audit Bureau of Circulations and Associated Business Papers Inc.

Publication office: 1213 W. Third St., Cleveland, Ohio, U.S.A. Telephone, CHerry 7672. Cable Address PLATTOIL, Cleveland. Cable inquiries are answered by mail unless subscriber advances sufficient funds in American money to cover our cable costs.

NEWS BUREAUS

New York, 50 W. 50th Street, Telephone Columbus 5-1516 and 5-1517.

Washington, D. C., 1002 National Press Bldg., Telephone, NAtional 0654.

Tulsa, Okla., 904 World Bldg., Telephone, 3-7132.

Los Angeles, 610-A Hillstreet Bldg., 815 South Hill Street, Telephone, VAndike 2845.

Chicago, 59 E. Van Buren Street, Telephone, Harrison 5901-2-3.

Subscription rate $3 per year in United States and Mexico; $4.50 in Canada and Foreign Countries. Current copies 15 cents, except special issues; back copies more than two months old 25 cents per copy.

THIS WEEK WITH NPN

10,000 PESOS

Oil men have many strange experiences in making their first contact with the oil industry. The strangest, we believe, is that of R. E. Hines, vice-president and general manager of The Caminol Co., Los Angeles. As told on this week's frontispiece, page 4, Mr. Hines' introduction to oil resulted from helping to ransom an Oklahoma oil man from Mexican bandits who demanded 10,000 pesos in gold.

OIL AT THE CAPITOL

To get a complete picture of how the federal government's laws and regulations are affecting your oil business, and to give you Washington "rumors" of what's to come, NPN's Washington News Bureau every week covers the President's press conferences, listens to Cabinet members' opinions, contacts scores of governmental agencies — asking and getting news of interest to all oil men. This news coverage includes calling on numerous Senators and Congressmen for their opinions of what has happened and for their views of what is to come. Covering the federal angle of this vast oil industry is no swivel chair job. And we don't own a swivel chair.

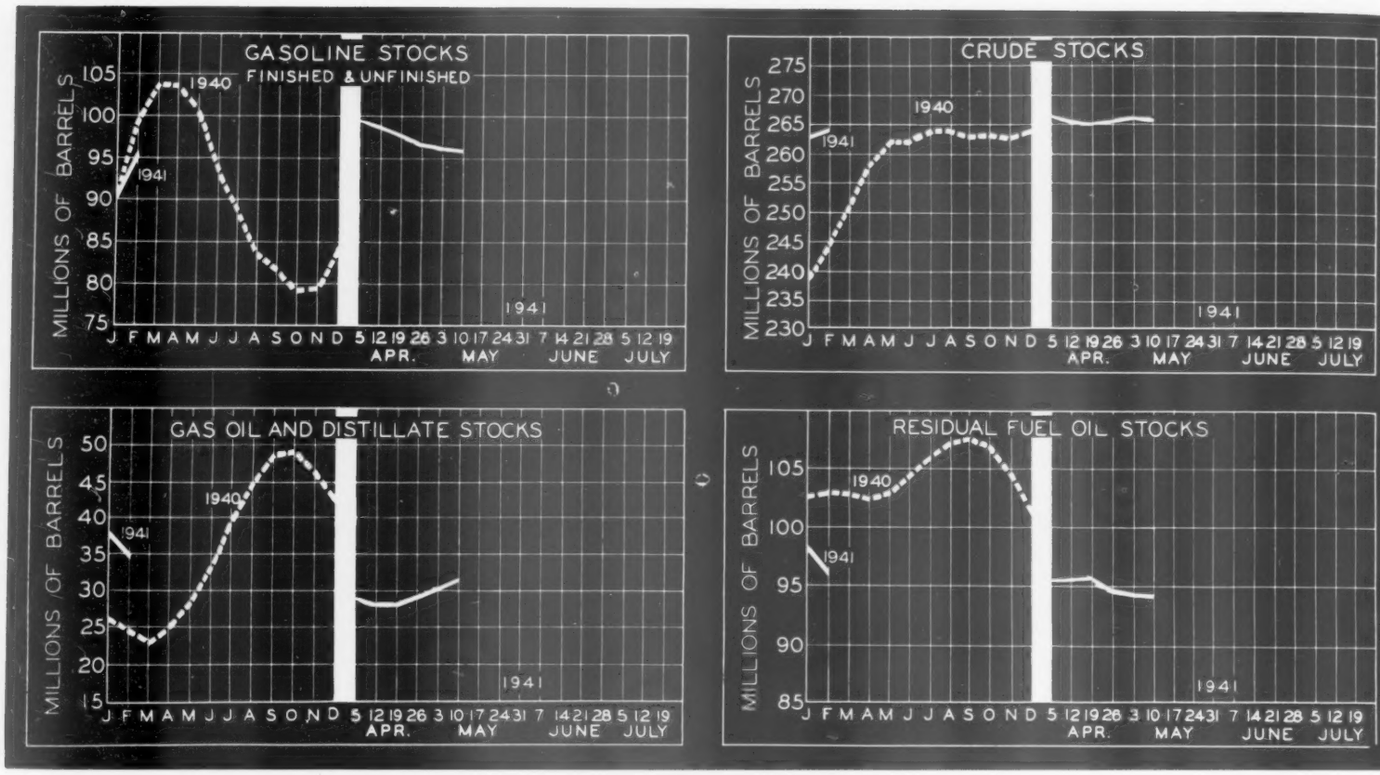
$30 FOR NPN

It pays to keep your old copies of NPN. Evidence of this is seen in a request for a quotation from a large company asking for certain back issues. More than 140 copies were needed and NPN replied that some, not all, copies would be supplied at a cost of $30.

STRATEGY

Purchasers in Europe must give considerable thought to every purchase they make in foreign countries. Not only are they faced with the problem of getting their money out—but they also have the problem of getting their purchase in. An indication of this is seen in an order for one OIL PRICE HANDBOOK received from a Hamburg, Germany, subscriber of NPN. He is ordering a book and says remittance will be delayed due to banking formalities. He concludes his order with elaborate directions for sending the book "via Siberia" so that it will reach him safely.

•STATISTICS•


GASOLINE STOCKS
FINISHED & UNFINISHED
MILLIONS OF BARRELS
1940
1941
J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19
APR. MAY JUNE JULY
CRUDE STOCKS
GAS OIL AND DISTILLATE STOCKS
RESIDUAL FUEL OIL STOCKS

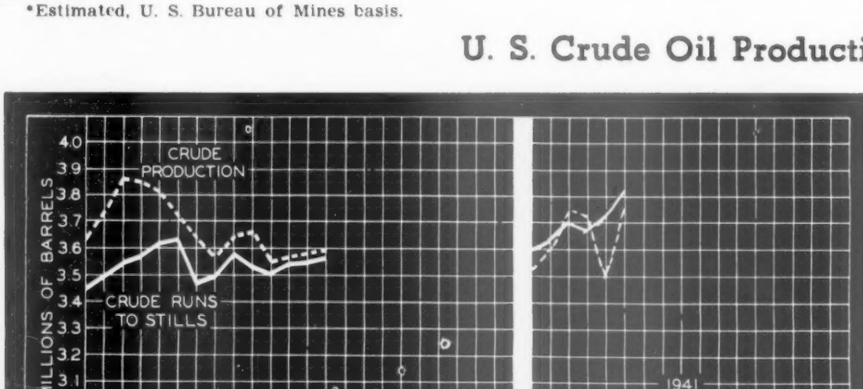
A.P.I. Report of Refinery Operations

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude Runs to Stills Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Gasoline Production at Refineries Incl. Natural Blended Week Ended		Total Stocks Finished & Unfinished Gasoline Week Ended		Total Stocks Gas Oil & Distillates Week Ended		Total Stocks Residual Fuel Oil Week Ended		Stocks Aviation Gasoline Included in Finished & Unfinished Gasoline Total Week Ended	
	May 10	May 3	May 10	May 3	May 10	May 3	May 10	May 3	May 10	May 3	May 10	May 3	May 10	May 3
East Coast	593	611	92.2	95.0	1,610	1,651	20,810	20,787	8,515	8,004	8,562	8,717	East Coast	
Appalachian	130	134	91.5	94.4	427	431	2,996	3,151	341	361	486	489	637	627
Ind., Ill., Ky.	628	594	93.7	88.7	2,413	2,297	18,101	18,408	2,733	2,552	3,356	3,258		
Okla., Kans., Mo.	288	273	89.2	84.5	1,102	1,027	8,306	8,399	1,252	1,270	1,959	1,968	Interior	
Inland Texas	134	106	80.2	63.5	610	535	2,266	2,217	347	343	1,353	1,354	951	927
Texas Gulf	904	921	94.7	96.4	3,022	2,845	15,026	14,978	5,731	5,462	6,539	6,032	Gulf Coast	
La. Gulf	162	125	101.3	78.1	400	390	3,367	3,445	1,197	1,127	1,937	2,151	3,676	3,539
N. La., Ark.	50	49	96.2	94.2	143	157	603	597	314	294	546	588		
Rocky Mt.	48	51	70.6	75.0	232	237	1,734	1,734	149	147	505	499	California	
California	549	536	75.2	73.4	1,472	1,386	15,799	15,872	10,369	10,189	67,574	67,763	1,635	1,718
Reported	3,486	3,400	89.2	87.0	11,431	10,956	89,008	89,588	30,948	29,749	92,817	92,819	6,899	6,811
Estimated Unreported	335	335			1,435	1,395	6,695	6,740	600	560	1,590	1,595	290	280
U. S. Total*	3,821	3,735			12,866	12,351	95,703	96,328	31,548	30,309	94,407	94,414	7,189	7,091
U. S. Total 5-10-40*	3,607				11,386		102,778		26,000		102,637		5,276	

*Estimated, U. S. Bureau of Mines basis.

U. S. Crude Oil Production


CRUDE PRODUCTION
CRUDE RUNS TO STILLS
MILLIONS OF BARRELS
1940
1941
J F M A M J J A S O N D J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
APR MAY JUNE JULY

(American Petroleum Institute figures)

	—Week Ended— May 10 Barrels (Daily Average)	May 3 Barrels
Oklahoma	417,900	408,650
Kansas	196,850	209,100
Nebraska	4,200	4,200
Texas	1,397,450	1,199,750
Louisiana	309,000	307,550
Arkansas	72,500	72,350
Mississippi	31,250	28,450
Illinois	325,050	322,900
Indiana	20,650	21,800
Eastern (Ill. & Ind. excl.)	90,600	93,250
Michigan	37,800	38,000
Wyoming	83,100	73,600
Montana	19,100	19,100
Colorado	3,600	3,800
New Mexico	108,800	108,800
California	638,100	595,800
Total U. S.	3,756,100	3,507,100
Crude Imports	127,715	125,430
Total New Supply	3,883,815	3,632,530

NATIONAL PETROLEUM NEWS—May 14, 1941—Vol. XXXIII—No. 20

Published every week at 1213 West 3rd St., Cleveland, Ohio, U. S. A. Subscription rate $3.00 per year in United States and Mexico; $4.50 Canada and foreign countries. Entered as second class matter Jan. 17, 1910 at Cleveland, O., post office under act of March 3, 1879, by The National Petroleum Publishing Co. Copyright 1941 The National Petroleum Publishing Company.

·STATISTICS·

Crude Oil Stocks

(U. S. Bureau of Mines Figures; Thousands of Barrels)

Grade or Origin	April 26	May 3	Change from April 26
Pennsylvania Grade	4,258	4,251	— 7
Other Appalachian	1,462	1,398	— 64
Lima-Michigan	1,047	1,069	+ 22
Illinois-Indiana	22,120	22,010	—110
Arkansas	2,921	2,949	+ 28
Kansas	9,168	8,944	—224
Louisiana:	13,083	12,838	—245
Northern	4,264	4,217	— 47
Gulf Coast	8,819	8,621	—198
Mississippi	988	1,016	+ 28
New Mexico	7,325	7,270	— 55
Oklahoma	61,989	61,483	—506
Texas:	86,191	86,639	+448
East Texas	21,938	22,082	+144
West Texas	16,266	16,056	—210
Gulf Texas	23,431	23,457	+ 26
Other Texas	24,556	25,044	+488
Rocky Mountain	15,570	15,453	—117
California	37,292	37,737	+445
Foreign	2,735	2,671	— 64
Total U. S. refinable	266,149	265,728	—421
Heavy in California	11,875	11,823	— 52

N. P. N. Gasoline Index

	Dealer T. W.	Tank Car
	Cents per Gallon	
May 12	9.44	5.86
Month ago	9.21	5.54
Year ago	9.10	5.66

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Dealer & Service Station Gasoline Prices 50 Representative U. S. Cities as of May 1, 1941

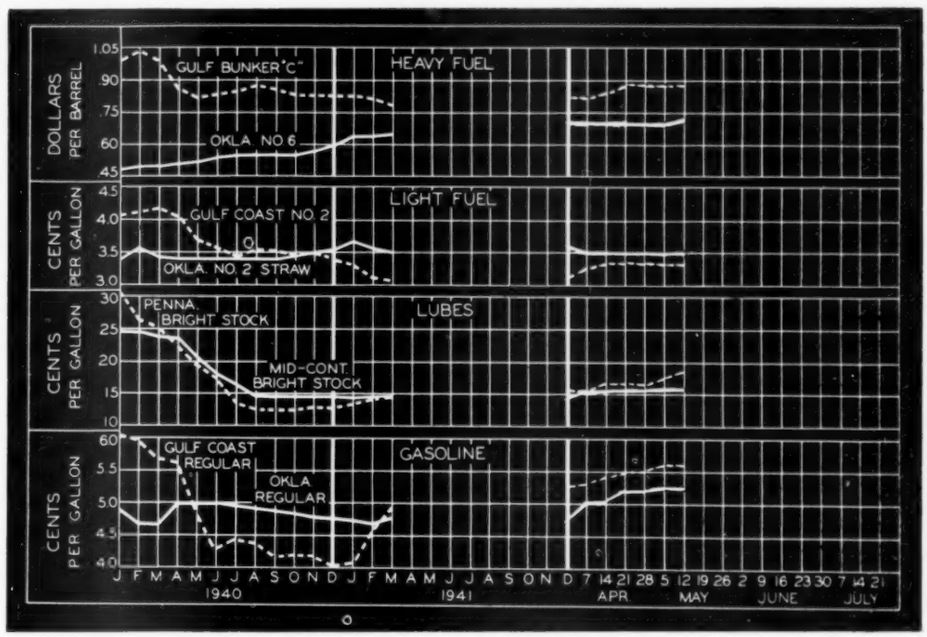
(Reported in American Petroleum Industries Committee Tax Economic Bulletin)

	Dealers' Net Price (Ex Tax)	Indicated Dealer Margin (Ex Tax)	Gas' Tax (Inc. 1.5c Federal Tax)	Service Station (Inc. Tax)
	(Cents per Gallon)			
Portland, Me.	9.0	3.5	5.5	18.0
Manchester, N. H.	9.0	3.0	5.5	17.5
Burlington, Vt.	9.6	3.9	5.5	19.0
Boston	8.7	2.8	4.5	16.0
Providence	8.7	3.3	4.5	16.5
Hartford	9.0	3.5	4.5	17.0
Buffalo	8.9	3.5	5.5	17.9
New York	8.2	3.3	5.5	17.0
Newark	8.4	4.0	4.5	16.9
Philadelphia	8.0	2.5	5.5	16.0
Dover, Del.	8.5	2.0	5.5	16.0
Baltimore	8.25	3.05	5.5	16.8
Washington	8.5	3.0	3.5	15.0
Charleston, W. Va.	10.05	4.05	6.5	20.60
Norfolk, Va.	8.75	4.55	6.5	19.80
Charlotte, N. C.	9.5	4.0	7.5	21.0
Charleston, S. C.	9.15	4.35	7.5	21.0
Atlanta	9.0	4.0	7.5	20.5
Jacksonville	8.5	3.0	8.5	20.0
Birmingham	8.5	4.5	8.5	*21.5
Vicksburg	8.5	5.0	7.5	21.0
Memphis	9.0	4.5	8.5	22.0
Lexington	9.5	3.5	6.5	19.5
Youngstown, O.	8.5	3.0	5.5	17.0
South Bend	10.3	4.2	5.5	20.0
Chicago	8.6	2.42	4.5	15.52
Detroit	9.10	3.37	4.5	16.97
Milwaukee	10.3	4.10	5.5	19.9
St. Paul-Minneapolis	10.5	4.0	5.5	20.0
Fargo, N. D.	11.7	3.5	5.5	20.7
Huron, S. D.	11.0	3.5	5.5	20.0
Omaha	8.4	3.0	6.5	17.9
Des Moines	9.9	3.5	4.5	17.9
St. Louis	9.2	3.5	4.5	*17.2
Wichita	8.3	3.6	4.5	16.4
Tulsa	7.0	2.5	5.5	15.0
Little Rock	9.25	4.25	8.0	21.50
New Orleans	8.75	4.25	8.5	21.50
Houston	8.0	4.0	5.5	17.5
Albuquerque	10.0	4.5	7.0	**21.5
Denver	8.5	4.5	5.5	18.5
Casper, Wyo.	11.0	5.0	5.5	21.5
Butte, Mont.	10.0	4.0	6.5	20.5
Boise, Idaho	13.0	4.0	6.6	23.6
Salt Lake City	11.5	4.0	5.5	21.0
Reno, Nev.	11.5	4.0	5.5	21.0
Phoenix, Ariz.	11.5	4.0	6.5	22.0
San Francisco	9.5	4.0	4.5	18.0
Portland	10.0	4.0	6.5	20.5
Spokane	11.5	4.0	6.5	22.0
Average 50 Cities	9.4	3.71	5.92	19.03

*Includes 1c City Tax. **Includes 0.5c City Tax.

REFINERY PRICES

Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram. Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN


DOLLARS PER BARREL
GULF BUNKER "C"
HEAVY FUEL
OKLA. NO 6
CENTS PER GALLON
GULF COAST NO 2
LIGHT FUEL
OKLA. NO 2 STRAW
PENNA. BRIGHT STOCK
LUBES
MID-CONT. BRIGHT STOCK
GULF COAST REGULAR
GASOLINE
OKLA REGULAR
J F M A M J J A S O N D J F M A M J J A S O N D 7 14 21 28 5 12 19 26 2 9 16 23 30 7 14 21
1940
1941
APR.
MAY
JUNE
JULY

Pacific Coast Taxable Gasoline Sales

(Reported by California Oil & Gas Assn. Figures in Gallons)

	March 1941	March 1940	% Gain	Jan.-March 1941 (90 days)	Jan.-March 1940 (91 days)	% Gain
Arizona	9,956,993	9,393,455	5.99	28,398,930	26,627,478	6.65
California	166,922,679	153,864,668	8.49	461,987,822	423,699,289	9.03
Nevada	2,823,660	2,533,666	11.44	7,571,171	6,659,127	13.69
Oregon	22,346,379	19,214,242	16.30	59,113,768	51,017,678	15.86
Washington	32,330,481	28,812,970	12.20	85,802,655	75,562,722	13.55
5 States Total	234,380,192	213,819,001	9.61	642,874,346	583,566,294	10.16

Oil Burner Statistics

(Compiled by U. S. Bureau of Census. Figures include only burners consuming Commercial Standard No. 1 fuel oil, or heavier.)

Item	1941 March	1941 Feb.	1940 March	1939 March	Total, 3 months (January-March) 1941	1940	1939
New orders, less cancellations	22,013	16,328	12,883	11,806	56,854	37,230	29,403
Unfilled orders, end of month	14,443	10,590	2,880	4,475	.....	.....	.....
Shipments:							
Total	18,160	16,091	12,770	10,671	50,454	37,255	27,083
United States	17,891	15,876	12,244	10,287	49,802	36,252	26,095
Canada	110	97	131	57	315	257	119
Foreign	159	118	395	327	337	746	869
Stocks, end of month	22,871	19,941	16,755	21,790	.....	.....	.....

Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies that refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average
Jan. 4	60,635
Jan. 11	71,543
Jan. 18	75,854
Jan. 25	74,429
Feb. 1	74,363
Feb. 8	75,735
Feb. 15	73,712
Feb. 22	71,890
Mar. 1	68,969
Mar. 8	65,810
Mar. 15	75,517
Mar. 22	73,851
Mar. 29	73,592
Apr. 5	75,127
Apr. 12	72,045
Apr. 19	76,970
Apr. 26	79,147
May 3	71,827
1940 Low	58,516
1940 High	85,584

G. C. R. A. Stocks Report

(Compiled by Gulf Coast Refiners Assn. from reports of member companies. Figures in barrels.)

	May 1	April 15
Gasoline Stocks, Total (Includes Aviation, Motor fuel & Naphtha)	2,502,707	2,517,208
Aviation Gasoline	560,698	547,582
Motor Fuel	1,833,955	1,909,962
Naphtha	58,054	59,664
Kerosine	310,702	283,215
Diesel Gas Oil	597,622	534,743
Diesel Fuel	29,853	41,058
Gas Oils, other types	811,164	655,031
No. 5 Fuel Oil	163,549	180,099
Bunker "C" Fuel Oil	356,508	401,526
Crude Runs (daily average)	76,757	69,130

R. E. Hines

Adventure, Romance and Oil Thread Lives of I.R.A. Heads

"My first contact with the oil business was when I helped ransom J. B. Bristow, Oklahoma oil man, who was captured and held for 10,000 pesos in gold by Mexican bandits in the state of Nayarit in 1929."

This was the answer of R. E. Hines, Los Angeles, vice-president and general manager of The Caminol Co., when asked how he entered the oil business. Mr. Hines was recently elected president of the Independent Refiners Assn. of California.

Other newly-elected I.R.A. officers are: B. E. Devere, executive vice-president of the Pathfinder Petroleum Co. and treasurer of El Camino Refining Co., first vice-president; Henry Brown, owner and operator of Operators Oil and Refining Co., second vice-president; and Arthur M. Lockhart, president of Envoy Petroleum Co., secretary-treasurer. Biographical sketches of these 4 officers follow:

While not dangerous when "at large", Mr. Hines says: "Have been in jail in Mexico, Central America and a few other spots South of the Border. Crimes, however, not great, but sufficiently troublesome to be jaily." Being in jail in the Mexican state of Nayarit is not surprising, for during a period of 27 months, some years ago, there were 18 governments.

Oil Man Hines was born in Holly Springs, Miss., about the time Bryan was thrilling the natives with his oratory and suffering his first political defeat. When attending public school, Mr. Hines recalls that he "contracted" the travel germ to invade the tropics, and attributes this to Latin verses which were being pounded into his skull by a Civil War veteran who had been perforated by Yankee bullets at Antietam.

"Exposed to no end of education, very little of which took," Mr. Hines became interested in mining and exploring in Mexico and Central and South America.

As a foreign correspondent for the Hearst newspapers, he "drew money from Hearst for feature stories, some true, some fancy; officiated at the death of several South American Republics and while covering a few revolutions managed to keep them going on the front pages of newspapers in the U. S. several weeks after they had died."

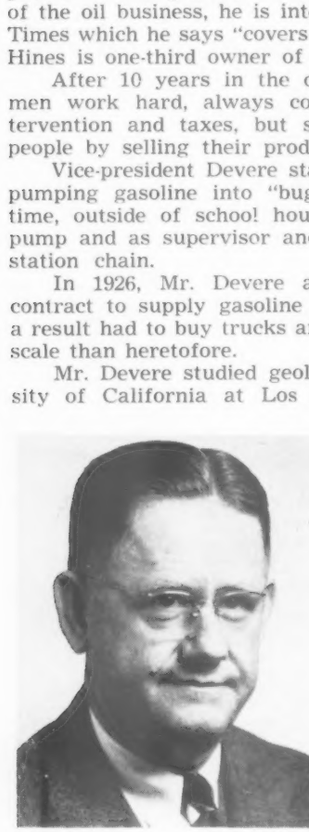
Returning to the U. S. in 1931, Mr. Hines became vice-president and general manager of The Caminol Co. Outside of the oil business, he is interested in the San Fernando Valley Times which he says "covers the valley like a blanket." Oil Man Hines is one-third owner of this "blanket".

After 10 years in the oil business, Mr. Hines says: "Oil men work hard, always complain bitterly of government intervention and taxes, but still pay their heaviest toll to the people by selling their product too cheap."

Vice-president Devere started in the oil business in 1917 by pumping gasoline into "buggies", later spending most of his time, outside of school hours, around service stations, at the pump and as supervisor and collector for a small independent station chain.

In 1926, Mr. Devere and his father were awarded the contract to supply gasoline to the city of Los Angeles and as a result had to buy trucks and go into the oil business on larger scale than heretofore.

Mr. Devere studied geology and engineering at the University of California at Los Angeles. A man who recognized the need for cracked gasoline many years ago, Mr. Devere had the technical knowledge to supervise his own refinery construction at both the Pathfinder and El Camino plants.



A. M. Lockhart

Henry Brown

B. E. Devere

While Engineer Devere prefers work to hobbies, he holds a private pilot's license and does some flying. Also, spends some time building airplane and boat models with his 2 sons.

Vice-President Brown was born in Nebraska, moved to California at an early age and is now an oil man. This is about all the information he offers. However, it's known that he attended the Law School at the University of Southern California and graduated in 1909. After practicing law for a short time, he became interested in refining.

Secretary-Treasurer Lockhart comes from an "oily" family, having 5 brothers engaged in some branch of the oil industry. He first became acquainted with "black gold" in the early 1900's when he worked with his father in Durant, Okla. Later he worked with his brothers in Oklahoma and Texas, and with Brother L. E., founded Rio Grande Oil Co., at El Paso, in 1915. From 1915 to 1932, he was Rio Grande's vice-president.

With H. J. Witz, Mr. Lockhart founded Envoy Petroleum Co. in 1933 at Long Beach, Calif. He helped organize the Independent Refiners Assn. and has been secretary-treasurer and director since it was chartered.

Outside of business, this Oklahoma-Texas-California oil man dabbles in oil leases and royalties in the Golden State and spends his spare time on golf links or taking movies which has been his hobby since 1919. He is married and has 3 children.

Says Oil Man Lockhart: "Hold to the quaint belief that the independent has a place in the oil business, but not on a 'fair weather' basis only. The independent must carry on and maintain service and good merchandise, come what may."

NATIONAL PETROLEUM NEWS

VOLUME 33 WEDNESDAY, MAY 14, 1941 NUMBER 20

Oil Prices Studied Following Transfer Of U. S. Tank Ships

NPN News Bureau

WASHINGTON, May 12.—Office of Price Administration is studying effect of transfer of 50 British tankers on petroleum products, including gasoline and fuel oil, along Atlantic Seaboard, OPA officials disclosed today.

Discussions have included southeast pipeline situation, where Plantation and Southeastern companies have been unable to secure rights-of-way for gasoline pipelines through Georgia, it was said, but no policy has been adopted by OPA.

Possible curtailment in fuel oil burner production and fuel oil use has not entered into discussions, officials stated, adding any reduction in burner manufacture would be primarily to conserve defense materials.

Officials were under impression that curtailment of burner production would have negligible effect in restricting use of fuel oil, and, therefore, could be no more than secondary consideration.

Price Administrator Henderson, when he told Ways and Means committee last week he would rather tax persons able to buy fuel oil burners than those who must buy gasoline, was thinking about conserving defense materials—not rationing fuel oil, OPA officials emphasized.

U. S. 'Holds Thumb' On Tanker Rates

NPN News Bureau

WASHINGTON, May 12.—Tanker charter rates are still subject to Maritime Commission program to keep all shipping charges at their present level, despite current plans for transfer of 50 tankers to British service (See NPN, May 7, p. 7), Commission spokesmen said today.

Officials declared Commission will also back any move to increase land transportation facilities, including new pipeline projects, and will lend assistance in securing upward revision in load limit now governed by international agreement to permit tankers remaining in service between Atlantic seaboard ports to transport greater volume of petroleum products.

Owners of tankers transferred to British service will be paid market price by Commission, providing charter rates do not get so far out of line as to be unreasonable, it was said. Commission also was represented as planning to provide co-operating owners with written evidence showing they had acted at request of government.

Other steps to alleviate tanker situation will be up to the industry, according to officials, who mentioned greater use of existing pipelines, transportation of more fuel oil in summer and more efficient use of available tonnage.

Cole Group May Act To Clear Pipelines

NPN News Bureau

WASHINGTON, May 13.—Chairman Cole of House Oil Investigating Subcommittee said today action may be taken within next few days on question of Federal legislation to clear away obstacles blocking construction of Plantation and Southeastern gasoline pipelines.

Mr. Cole, however, declined to set definite time limit or state what action may be expected. He also declined to disclose nature of definite conclusions on what ought to be done about pipeline situation in Southeast which he says have been reached but not acted upon by subcommittee.

Reporting by subcommittee on legislation dealing with situation is a possibility, although there is nothing certain about this, Chairman Cole stated. Sources close to Cole group, meanwhile, said published statements to the effect that subcommittee will report pipeline bill, represented nothing more than guesses.

March 'Gas' Demand Increases 9%

NPN News Bureau

WASHINGTON, May 13.—Domestic demand for motor fuel in March amounted to 48,606,000 bbls., or 9% above that of a year ago, Bureau of Mines reported today, adding that figures indicate unpredictable element of speculative buying has diminished greatly in importance.

Domestic demand for distillate fuel oil was up 22% above last year's relatively high figure, but demand for residual fuel oil was up only 5%. Bureau stated this may indicate part of new industrial demand is for light fuel oil of gas-oil type.

Daily average March crude oil production was 3,639,300 bbls., about 40,000 bbls. above February average.

Mid-Continent Oil Rail Rates Effective on 10-Days Notice

NPN News Bureau

TULSA, May 12—Interstate Commerce Commission has granted carriers' request to publish, on 10 days' notice light oil rates prescribed by ICC in docket 28106 effective June 11, southwestern shippers were advised today.

And rails, some of whom had reported earlier that it would be "physically impossible" to check the rates out and publish them effective June 11, now say publication of new rates "will be made accordingly" on this date.

18 to 20% Reductions

While tariffs have not yet been published and all rates not fully checked, reports indicate rates prescribed by ICC on gasoline, kerosine, natural gasoline and other light products taking the same rates will represent reductions of about 18 to 20%.

To representative Illinois destinations, new rates from Group 3 represent reductions of from 0.26 to 0.58c per gal., or an average cut of about 39c; to Indiana destinations, reductions range from 0.66 to 0.72c per gal., or an average of about 0.66c; to Iowa destinations, 0.46c to 0.66c per gal., or an average of 0.55c; to North and South Dakota, 0.66 to 0.85c per gal., or an average of 0.82c; to Minnesota destinations, 0.59 to 0.85c per gal., or an average of 0.66c; to Wisconsin, 0.26 to 0.72c per gal., or an average of about 0.62c.

Rates from other southwestern origin points will maintain the same relationship now existing between those areas and Group 3, according to the ICC order.

Light Oils Only

As construed by the rails, "maximum" rates ordered by the ICC do not cover so-called low grade oils, which generally are based on 80% of the light oil rate. As result, reduced rates June 11 will cover only those light oil products, with low-grade oils unchanged and based on 80% of rates in effect prior to the June 11 cut.

In presenting evidence to the ICC in the case, complainants had requested and contended that if reductions were made in light oil rates, corresponding cuts should also be made in rates on low-grade oils.

Dealer Margin On Gasoline in 50 Cities At Highest Point Since January 1, 1940

NPN News Bureau

NEW YORK, May 13.—Average dealer margin on gasoline was the largest on May 1 in more than a year, and average of 50 cities service station prices was the highest since Jan. 1, 1940, according to report of the American Petroleum Industries Committee.

Average net dealer price in 50 cities for regular-grade gasoline on May 1, the report showed, was 9.4c, with average service station price at 19.03c, indicating dealer margin of 3.71c, or 0.04c below the last previous high of 3.75c on April 1, 1940. Last previous high on service station price was 18.95c on Jan. 1, 1940.

Averages of the 50 cities prices as of the first day of the last 17 months are shown in the tabulation below:

1941	Dealer's Net Price (Ex Tax)	Indicated Dealer Margin (Ex Tax)	'Gas' Tax (Inc. 1.5c Federal Tax)	Service Station (Inc. Tax)
		(c per gallon)		
May 1	9.40	3.71	5.92	19.03
April	8.78	3.64	5.90	18.32
March	8.62	3.65	5.90	18.17
Feb.	8.54	3.64	5.90	18.08
Jan.	8.54	3.63	5.90	18.07
1940				
Dec.	8.46	3.63	5.90	17.99
Nov.	8.58	3.63	5.90	18.11
Oct.	8.59	3.61	5.90	18.10
Sept.	8.69	3.64	5.90	18.23
Aug.	8.91	3.67	5.92	18.50
July	8.91	3.62	5.92	18.45
June	9.00	3.66	5.42	18.08
May	9.24	3.67	5.42	18.33
April	9.42	3.75	5.42	18.59
March	9.61	3.73	5.42	18.76
Feb.	9.73	3.70	5.42	18.85
Jan.	9.78	3.75	5.42	18.95

Value of 'Selective Selling' Told to New England Oil Men

By NPN Staff Writer

BOSTON, May 9.—"Selective selling" to eliminate scattered, hard-to-serve accounts and the forceful direction of sales efforts toward more potential markets were outlined here this week by Arlen T. Doane, Boston Sales Manager for Shell Oil Co., as the most logical steps for oil marketers to take in view of another rapidly approaching change in merchandising.

Speaking before the 18th annual convention of the Independent Oil Men's Assn. of New England, meeting here May 8 with over 1500 in attendance, Mr. Doane pointed out that the oil industry has already passed through 2 phases of merchandising. These, he identified as the period between 1920 and 1930 when minimum of merchandising effort was required, reflecting excess of demand over supply, and the period following, during which the motoring public has demanded much more value, requiring all types of ingenious merchandising, and reflecting excess of supply over demand.

During the period which lies ahead, Mr. Doane said, some sacrifices will have to be made for the defense effort, and may have the effect in a broad sense of limiting supply. On the other hand, upsurge in earning power and marked reduction in unemployment will result in increased demand. Thus, another cycle may be completed and the demand-exceeds-supply condition return. Increased taxation, however, may help to keep situation in balance, he pointed out.

The approaching period will be undoubtedly one requiring greater effort directed toward "selective selling", Mr. Doane stated. For the most profitable operations, he recommended that oil marketers (1), review the market potential in relation to their own business; (2), measure individual abilities to serve best interest of that potential, and (3), effect intelligent direction toward selective selling of that market.

Customers will probably expect much greater value for their dollar, and fresh approach in selling, servicing, greater emphasis on service and more speed will be required, Mr. Doane concluded.

Tanker Shortage Cited

Dr. R. E. Wilson, oil consultant to the National Defense Advisory Commission, flew here from Washington to speak to the convention on the effect of the war on petroleum. Mr. Wilson told group that only possible bottleneck in the domestic picture is a shortage of tankers for movement from the Gulf to Atlantic coast points. Barge facilities have been expanded to counter this deficiency, he said, and existing pipelines are carrying heavier loads. He also recalled that the U. S. Maritime Commission has authorized construction of several new ships ways which will soon be turning out about 4 tankers a month.

"The public need fear no 'gasless Sundays' as was the case during the last war as there is plenty of gasoline and oil," the oil consultant said. He stated he believed Germany, on the other hand, was short on lubricating oils, wax and asphalt. Mr. Wilson characterized Britain's oil situation as "secure", and said he believed that sufficient air superiority on the part of the R.A.F. to permit long-range, daylight bombing of Germany's synthetic plants and transportation facilities would riddle such a vital spot that actual invasion of Germany might never be necessary for England to win the war.

The oil consultant said he could not give credence to reports that Germany's pre-war storage of petroleum totaled 100,000,000 bbls., and estimated a pre-war storage of 30 to 40,000,000 bbls.

Round Table Speakers

Speaking during round-table discussions were Harry B. Tower, Socony-Vacuum Oil Co., Inc., who addressed the group on "Chemistry of Petroleum", tracing, among other steps, the history of gasoline in its various phases; Joseph E. Lowe, New York, Tidewater Field Warehouses, Inc., who spoke on field warehousing; M. F. O'Neil, Fire-

(*Continued on page* 13)

Madison I Retrial May Get Underway

Special to NPN

MADISON, Wis., May 12.—Whether or not retrial of defendants in first Madison oil case (buying program) will proceed June 2 as now scheduled is still uncertain, but the government indicated that it was ready to go ahead when Federal District Judge Walter C. Lindley, Danville, Ill., filed an order in federal court here last Thursday directing that impounded documents withdrawn by defendant oil companies be returned to the Madison court before May 25.

Attorney general's office, in a request for return of the documents, indicated it desires to use them in the retrial of 9 remaining defendants convicted of conspiracy to fix gasoline prices in violation of the anti-trust act. Judge Lindley, who had continued the case several times previously, recently granted a new postponement of the trial from May 12 to June 2.

Four years ago, upwards of 18 tons of records were subpoenaed from the files of major oil companies for use in a grand jury investigation and the ensuing conspiracy trial. About half of these were withdrawn under permission granted by Judge Patrick T. Stone on April 1, 1938, after conclusion of the trial.

Some of the defendants granted new trials by Judge Stone in July, 1938, have withdrawn by entering *nolo contendere* pleas and accepting fines. Two companies and 7 individuals remain for the retrial.

Kansas' Governor Signs Interstate Oil Compact

Kansas' Gov. Ratner signs Interstate Oil Compact for another 2 years

Special to NPN

TOPEKA, Kans., May 12.—Gov. Payne H. Ratner, Kansas, last week signed Interstate Oil Compact, which if approved by Congress, will extend for another two years a pact which he describes as having "greatly assisted the orderly production of crude, the prevention of waste and the protection of future oil reserves."

"In my judgment," the governor said, "the compact has also contributed toward enabling the oil industry today to point with pride to the fact that it is ready to meet any national emergency with adequate reserves and with production and refining facilities flexible enough to respond promptly to emergency needs.

"It is gratifying to know that Kansas has been among the states that have taken the lead in this program and that today she stands ready to do her full share in the defense program," he said.

The governor's representative on the compact commission is Andrew F. Schoeppel, chairman of the Kansas Corporation Commission and vice-chairman of the compact commission.

Bareco Oil Subpoenaed In Madison Retrial

NPN News Bureau

TULSA, May 12.—Bareco Oil Co., successor to Barnsdall Refining Corp. and affiliates, has been served with subpoena duces tecum in retrial of first Madison oil case (buying program) scheduled for June 2 at Madison, Wis. J. C. Evans, Tulsa, Bareco Oil Co., has been served as a witness in the case.

Burner Shipments in March Show Increase of 5390

NPN News Bureau

WASHINGTON, May 10—Census Bureau reports March oil burner shipments at 18,160 as against 16,091 in February, 12,770 in March 1940, and 10,671 in March 1939.

Representing 90% of the value output of oil burner industry, figures cover 159 manufacturers for 1941, 170 for 1940 and 178 for 1939.

PRICES

New York Gasoline

NEW YORK, May 10.—Effective May 9, Socony-Vacuum Oil Co., Inc., advanced its posted prices for Mobilgas (regular) in 4 boroughs of New York City—Manhattan, Bronx, Kings and Queens, company has announced. Commercial tank car and commercial consumer tank wagon prices were up 0.7c to 8.6c and 8.3c, respectively, with undivided dealer tank wagon up 0.8c to 9c. No change was made in Richmond (Staten Island) prices.

Mobilgas prices were advanced in western New York state, effective May 8, in amounts ranging from 0.4c to 1c a gal., company also announced. New undivided dealer prices at principal points are: Rochester, 9.9c; Syracuse, 9.5c; Binghamton, 9.4c; and Buffalo, unchanged at 8.9c.

* * *

Pennsylvania Gasoline

PHILADELPHIA, May 10. — Atlantic Refining Co., effective May 9, advanced its tank wagon prices for gasoline 0.5c generally throughout Pennsylvania and Delaware, according to a company official.

* * *

Socony Ups Light Fuels

NEW YORK, May 10.—An advance of 0.1c per gal. in most of its posted prices for Mobilheat (Nos. 2 and 3 fuel oils), effective May 8 for all methods of delivery throughout Vermont, Connecticut and most of New York state, excepting far western area and New York City, has been announced by Socony-Vacuum Oil Co., Inc. Mobilheat prices in New York City and surrounding area were advanced 0.2c per gal. effective May 7, Socony announced.

* * *

New Jersey Fuel Oils

NEW YORK, May 8.—Standard Oil Co. of New Jersey has advanced its tank wagon prices for Nos. 2 and 3 fuel oils in New Jersey 0.2c per gal. effective May 7, according to a company announcement today.

Effective the same date, dealer tank wagon prices for "Esso" gasoline (regular) at several points in North Carolina were advanced 0.2c to 1.75c per gal., announcement stated.

Commissioner Sees Hike In Texas Crude Prices

Special to NPN

AUSTIN, May 10.—Anticipating further advances in crude prices, Texas Railroad Commissioner Olin Culberson this week said that crude demand is 11% higher than at the same month last year.

With more people returning to work and with the resultant increase in automobile purchases, Mr. Culberson saw a high peak for this summer's gasoline consumption.

New York Fire Official Ousted in Burner Graft

NPN News Bureau

NEW YORK, May 13.—New York's Mayor La Guardia forced resignation of Fire Commissioner J. J. McElligott last week for his share in alleged oil burner graft for which one of his inspectors was suspended for 30 days.

Alleged graft conditions whereby corrupt inspectors collected sums ranging from $5 to $25 as payment to issue certificates for licenses had persisted for number of years. Oil burners dealers protested and their pleas came to William Herland, Commissioner of Investigation on the special committee appointed by La Guardia. Herland called in 7 of these inspectors and, after hearings, brought indictments against them.

Quarter Profit Off For Nine Oil Firms

CLEVELAND, May 12. — Net income of 13 oil companies for period ending March 31, 1941, was $27,723,863, compared with $36,482,883 in first quarter of 1940, according to report this week of Carl H. Pforzheimer & Co., New York. Three other companies reported first-quarter 1941 earnings totaling $3,702,507, comparing with $4,473,658 for the same period in 1940.

"The decline in first quarter earnings of the group as compared with a year ago primarily reflects the unsatisfactory gasoline price structure which prevailed during the period as well as comparison with the unusually good first quarter last year," report states.

First quarter earnings for the oil companies follow:

	1941	1940
Atlantic Refining Co.	$2,747,510	$3,122,513
Barnsdall Oil Co	486,569	357,737
Houston Oil Co.	423,280	478,503
Phillips Petroleum Co.	3,307,892	3,286,620
Plymouth Oil Co	245,806	586,441
Seaboard Oil Co	264,358	502,949
Shell Union Oil Corp.	3,621,794	5,314,158
Skelly Oil Co.	898,917	773,281
Standard Oil Co. of Calif.	4,799,184	4,534,623
The Texas Corp	6,600,000	12,800,000
Texas Pacific Coal & Oil Co.	195,597	179,692
Tide Water Associated Oil Co.	2,859,950	3,780,220
Union Oil Co. of California	1,273,006	766,146
Ohio Oil Co.	1,933,771	2,292,294
Empire Gas and Fuel Co.	1,746,839	2,168,333
Panhandle Producing and Refining Co.	21,897	13,031

'Conservation Without Proration' Bill Sets Off Fuse to Illinois Oil Battle

Special to NPN

SPRINGFIELD, Ill., May 10. —The Illinois legislature is girding itself for an "all-out" fight over oil legislation, the preliminaries of which were touched off by the introduction of Gov. Dwight Green's bill for conservation without proration.

Gov. Green, in discussing the bill, declared that no attempt at proration of oil would be made and emphasized that the measure is designed only to promote the ultimate maximum recovery of oil in the Illinois fields. Such legislation, he said, would afford to land owners, royalty owners and the entire state the greatest possible return from development and production of a great natural resource. The chief purpose of the act is to conserve oil and gas by prevention of physical waste through approved geological and engineering practices, he said.

Sees No Waste

The governor said that figures from every source disclose Illinois' oil production is not in excess of demand and there is no reason to restrict production.

The bill would create an oil and gas conservation commission of 3 members, appointed by the governor, with staggered terms for members after the original appointments. Members would be required to be "qualified to perform their duties," and must have no direct or indirect connection with any oil interest. Each would be paid $6000 annually for a 2-year term.

With jurisdiction and authority over all matters relating to conservation of oil and gas, the commission would be empowered to collect data, make examinations, investigations and inspections, examine oil and gas leases, leasehold estates and property; examine, check and gauge oil and gas wells, tanks, refineries and modes of transportation; examine papers, books, records of any manager or owner deemed to have information concerning the subject matter under inquiry.

Commission's Powers

The commission could require the drilling, completing, equipping casing and plugging of wells to be done in such manner as to prevent migration of oil or gas from one stratum to another; prevent intrusion of water; prevent pollution of fresh water; prevent oil migration into workable coal or other mineral deposits.

It also could require making and filing of reports and maps showing location of all wells drilled for oil or gas; making and filing of logs and drilling and operating records or reports of any oil or gas well within 90 days after completion or plugging.

The commission would be empowered to prevent wells from being drilled, operated or produced in such manner as to cause injury to neighboring property and to workable coal seams or other minerals. However, all rules, regulations and orders are to be based on approved petroleum and mining engineering practices.

Could Limit Output

The commission also would be empowered to regulate the secondary recovery methods of oil and gas, including pulling or creating of a vacuum.

Finally, for the prevention of waste, the commission might "determine, regulate and limit the production of oil or gas, or both, from any well, wells, leases or properties."

Also to prevent waste, the commission could establish a drilling unit, or units, for each new pool and for undeveloped portions of pools. A drilling unit shall mean a maximum area which may be "efficiently and economically" drained by one well, except that in pools producing oil from depths less than 3500 ft., the unit so established for a pool producing from a sand horizon shall not exceed 10 acres, and for a pool producing oil from a limestone horizon shall not exceed 20 acres, unless all of the owners of record within the probable producing area consent to a larger drilling unit.

Each well permitted on any such unit shall be drilled approximately in the center thereof, except that, on reasonable necessity, the commission may authorize drilling at such other location as may be required.

State Bodies Eye New Oil Tax Bills

NPN News Bureau

NEW YORK, May 12.—While Rhode Island and Delaware were reporting sine die adjournment on May 1 and 3 respectively, several other state legislatures continued to introduce new oil tax measures and to act on those bills which had previously been reported from committees.

Two Florida bills sought to levy and collect 1c gasoline taxes in the cities of Pensacola and Panama City while an Illinois proposal would impose a tax of

5c per 1000 cu. ft. on all natural gas produced in the state after Sept. 1, 1941. Of these 3 measures, the 2 from Florida were later passed in the House. Oklahoma climbed on the tax bandwagon with Representative Latting's bill to place an excise tax of 1c per gal. on special fuel in addition to all other taxes "heretofore or hereafter laid on special fuel."

Taxes Liquefied 'Gas'

While Iowa was the only state last week to enact into law a tax measure, when her Governor approved the bill to tax liquefied gas used in motor vehicles the same as other motor fuels, several of her sister states passed taxation proposals in their Houses or Senates. Illinois' bill to tax all crude oil produced in the state by 3% and Oklahoma's measure to increase gasoline excise taxes from 4c to 5c both passed their respective Houses while Pennsylvania's lower chamber was busy voting favorably to extend her gasoline tax to May 31, 1943.

NPN's Log On Oil Legislation

Oil legislative information, summarized below, is based on reports deemed reliable although NATIONAL PETROLEUM NEWS assumes no responsibility for the accuracy or completeness of this information.

BILLS INTRODUCED

SCR-10, Gillette, Iowa, HCR-30, Coffee, Wash.
Investigation of shipment of U. S. goods reaching Axis. To Senate Foreign Relations and House Rules committees.

Illinois

S-529, Maypole
Imposes 5c per 1000 cu. ft. tax on all natural gas produced in Illinois after Sept. 1, 1941. To Oil and Gas Committee.

Oklahoma

H-591, Latting
Levies excise tax of 1c per gal. on special fuel in addition to all other taxes heretofore or hereafter laid on special fuel.

Texas

S-454, Kelley
Extends oil and gas mineral leases granted by state on areas covered by coastal waters of state or within Gulf of Mexico. To Oil, Gas and Conservation Committee.

CHANGED STATUS

Connecticut

H-954, Smith
Same as S-1830. Refunds gasoline tax to municipalities. Passed House.

Delaware

H-49, Patterson
Exempts from tax, gasoline used for agriculture. Passed House.

Florida

S-148, Whitaker
Encourages exploration for petroleum and gas in state. Passed Senate.

H-877, Bailey, et al
Authorizes Panama City to levy and collect tax not to exceed 1c per gal. on gasoline. Passed House.

H-897, Helie, et al
Proposes tax not to exceed 1c on gasoline by City of Pensacola. Passed House.

Illinois

S-388, Benson, et al
Imposes tax of 3% on all oil produced in Illinois. Passed House.

H-494, Tuttle
Compels drilling of offset wells. Passed House.

H-101, Powell
Taxes crude production 5c a bbl. for old age assistance. Tabled.

Nebraska

No. 470, Nebauer, et al
Exempts from tax, fuel used for agricultural purposes. Passed House.

New Hampshire

H-161, Myhaver
Provides for reciprocal privileges in operation of motor vehicles. Killed in House.

Ohio

H-152, Easton
Creates a Natural Resources Coordinating Board. Passed Senate.

Oklahoma

H-524, Latting
Increases gasoline excise tax from 4c to 5c, extra 1c to go to general revenue fund with no exemptions. Passed House.

S-305, Rinehart
Authorizes Board of Affairs to lease state lands under its control for oil, gas and mining purposes. Passed Senate.

S-306, Rinehart
Directs tax commission to transfer to general fund certain funds reserved for payment of refund claims for tax exempt sales of motor fuel. Passed Senate.

Pennsylvania

H-229, Winner
Extends 3c gasoline tax to May 31, 1943. Passed House.

APPROVED

Iowa

S-469, Judiciary "2" Committee
Taxes liquefied gas used in motor vehicles same as other motor fuels.

Michigan

S-63, Logie
Amends sections of 1935 act requiring cost or surety bonds on wholesale gasoline distributors to be paid by State.

Minnesota

H-942, MacKinnon, et al
Provides for use of tax money unclaimed by purchasers of aviation gasoline.

Colorado Passes Bill To Renew Oil Compact

TULSA, May 12.—Colorado's name was added to the list of producing states that have renewed their membership in the Interstate Oil Compact for another two years. Governor Carr signed enabling legislation May 9.

Shell's Deer Park Plant To Double TNT Output

NEW YORK, May 10. — Shell Oil Co. Inc., has announced its output of toluene, basic ingredient of TNT, will be doubled upon completion by Oct. 1 of a new plant at its Deer Park refinery near Houston, Tex.

New plant, with output estimated at 2,000,000 gals of toluene annually, is a duplicate of Shell's present plant, also at Deer Park.

Rolls of 'Folding Money' Hit Tecumseh As Business Booms from Oil Discovery

NPN News Bureau

TULSA, May 12.—Plea of Tecumseh's mayor that townfolks pay up their taxes so the village's gravelled streets, parks and city administration can be maintained, now stands a better chance of falling on responsive ears than a few months ago.

His plea of last week comes at a time when there's "real folding money" circulating in this little town in Pottawatomie County, central Oklahoma. Oil has been discovered 2 miles north of town, leasing play in the Lake Tecumseh field has progressed right up to the city limits and the hamburger, hotel and rooming house businesses are booming.

Hall-Jordon Oil Co.'s discovery well started the real play and confirmed predictions that Tecumseh would be the supply town for the potential oil pool in this area. A "good well," according to oilmen, the discovery is now making about 50 bbls. of crude hourly through tubing from the Wilcox sand which was reached at a depth of 5224-5235 ft.

See More Completions

Discovery has brought with it landmen, geologists, scouts and seismograph crews. No less than 6 of these crews are operating in the area and to the east, north and west of town new wells are rigging up. It will probably be a week or 10 days before 2 nearby tests are completed.

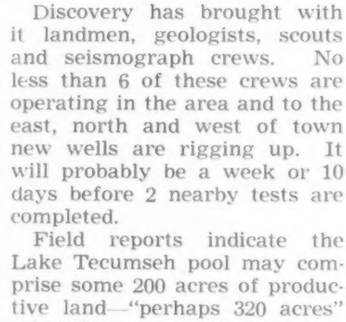
Field reports indicate the Lake Tecumseh pool may comprise some 200 acres of productive land—"perhaps 320 acres" —but they are qualified and contain many reservations.

Lake Tecumseh oil is reported as "just mine-run oil" and comparable to that in this general area. Production from the discovery well is being taken by Standard Oil Co. of Indiana through a 3-mile extension of its pipeline facilities.

Tecumseh may stage an "appreciation celebration" commemorating discovery of oil. Details haven't been worked out, but the objective will be to "outdo" the celebration staged at Guthrie not long ago when oil was discovered there. (NPN, March 12, p. 20). Wildcatting continues in the Guthrie area, described by some reports as "hottest" in Oklahoma.

Meanwhile the Hall-Jordon well is producing its "bonus oil" allowed all discovery wells "brought in" in Oklahoma. With more than half of Oklahoma's output coming from "stripper" wells and new flush production needed to bolster the state's oil reserves, the Oklahoma Corporation Commission is allowing discoveries a bonus allowable of 30,000 bbls. This bonus, together with increased demand and recent advances in prices is said to be stimulating wildcatting in several sections of Oklahoma.

With oil dollars circulating in Tecumseh, the city fathers say they are a little more hopeful that those streets and parks can be maintained this year and that the city's coffers won't run dry too early in the fiscal year.



Oklahoma has new oil discovery two miles north of Tecumseh

51% of Oklahoma Production To Come from 'Strippers'

Special to NPN

OKLAHOMA CITY, May 12. —Almost 51% of Oklahoma's May crude allowable of 410,000 bbls. is expected to be produced by so-called stripper or unprorated wells, Oklahoma Commission reports.

Report says there are approximately 55,000 stripper wells in the state, which produce an average of about 3.5 bbls. of oil daily, and in order to prevent premature abandonment and waste, it was ordered that they should be allowed to produce at capacity.

Halt Scrap Rubber Exports to Japan

NPN News Bureau

CLEVELAND, May 12.—Licenses for export of scrap rubber to Japan and occupied parts of China have been revoked by the Export Control Administration. Order became effective May 5. Action is understood to be designed to cut off German source of supply and to conserve scrap rubber for U. S. defense needs.

Colorado's Gov. Carr has been quoted on radio as saying motorists will soon be asked to stop week-end driving to conserve rubber supplies.

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Diversion of Oil Tankers Threatens Efficiency of Industry's Assembly Line

The first noticeably serious impact of the war on the domestic oil situation—for oil marketer, dealer and the consumer—lies in the possibilities to come from the diversion of some of the American tankers that have been carrying petroleum supplies for the big oil market of the East Coast, to carrying shipments for export to England.

What at first thought may seem to concern only the convenience of a few tanker owners, now promises a considerable change in the whole oil situation east of the Rocky Mountains. The extent of the changes depends upon British and American Navy demands for petroleum products and the extent of these future demands is quite speculative, but here are some of the possibilities—if not even probabilities,—

Actual inability of the oil industry to move enough petroleum products by water up the East Coast from the Gulf to care for domestic demand, especially this fall and winter.

Inability, due to railroad opposition in Georgia, to get additional pipelines built in time to supply domestic needs caused by a deficiency in tankers.

Insufficient supply of tank cars to move the domestic deficiency in petroleum supplies, even though the cost would be much higher.

Increasing capacity of refineries in the Central West—Ohio, Indiana, Kentucky and Western Pennsylvania—which would permit moving their marketing area eastward to territory now supplied from the Atlantic Coast refineries.

Such increasing dependence on central west refineries would in turn put a heavier demand on nearby crude oil fields, Illinois, Kansas, Oklahoma and North Texas, which, in turn, might easily leave some producers in southern and Texas Gulf Coast fields without any purchasers.

All this is not idle conjecture. They are possibilities that oil company executives are trying to figure against. Some executives have already started to spend money in increasing their central west refineries so as to be able to take over some of the territory they have been supplying from the East Coast.

Today's stocks of refinery products on the East Coast, in the opinion of conservative experts, should be higher. Gasoline stocks should be, they think, nearer the 24,000,000 bbls. of a year ago this time, instead of the nearly 21,000,000 bbls. of gasoline on hand in east coast refineries today.

With all the continuing increase in fuel oil consumption in the East, larger stocks of those oils are recommended for next fall than were held last fall.

When one realizes that the East Coast was supplied with crude oil and refinery products from the Gulf Coast at the rate of 1,250,000 bbls. a day in a fleet of about 260 domestic tankers, one can realize what a diversion of 25 tankers, or 10%, means and what difficulties will be encountered when a total of 50 tankers have to be taken from that service which means reducing the size of the tanker fleet 25%, in a year of greatly growing consumption.

Navy to Need More Floating Storage

The extent of the possibilities of disruption to the industry is hard to figure out. Any convoying by American naval vessels of merchant ships to England's shores and around South Africa to the Red Sea promises to magnify the effect of these possibilities.

There is first the question of just exactly in what shape is England and its navy and tanker supply?

Some information has been given the members of the oil industry's tanker owners to prove the need for the diversion of 25 tankers at once to England's use with an additional 25 tankers to be diverted shortly. However, not every one seems to believe that this information alone warrants even today's diversion. The tanker situation is in the same muddle as the whole shipping situation into which Congress is this minute delving to try and get all of the truth. Men who have to give up tankers or other ships feel that they should be fully satisfied with England's need for their vessels and that they should be satisfied that England is making an intelligent and fair use of its present shipping. There is no intention of depriving England of what she needs, but the English government is no different than any other government in that it can make mistakes of judgment and of management.

There is also the big question of just to what extent will the American Navy need tankers. That Navy operating in peace times uses fuel oil storage of its own and also of the oil companies around the world. But if engaged at war, the navy will be on the move. It will have to keep floating storage right along with it and that storage (tankers) will have to be kept supplied from shore points, how far away remains to be seen. An ever increasing American navy steaming at high speeds over wider areas will need an increasing number of tankers. How many is the question to which no one seems to have much of an answer.

There will also have to be more fuel oil hauled for the greatly increasing fleet of American general cargo vessels and this will take more tankers. The administration gave plenty of orders for more cargo boats the past year but seemed rather to overlook the need for more tankers, at least until comparatively recently.

What government officials are just beginning to realize is that the oil industry has been organized as a whole on a highly efficient, 24-hour operating basis. A recent questionnaire from a government department shows its ignorance by asking refiners to figure out how much more gasoline and other products they could make if they ran on a 24-hour basis instead of on an 8-hour basis. These governmental "experts" do not know that refineries have run continuously throughout the 24 hours since the first one was built 80 years ago.

Refineries not only operate on a 24-hour basis, but so do wells, pipelines, tankers, tank cars and even much of the trucking and the rest of the industry's distributing system.

Oil's Carefully Figured Efficiency

The whole oil industry operates on a mass production basis just as a great automobile plant runs its assembly line. And, like in the automobile business, all the equipment from the well to the consumer has been figured to operate at its maximum capacity. In that way, the industry has been able constantly to reduce the prices for all petroleum products despite increasing costs of various kinds and despite paying higher wages than other industries.

To take 25 or 50 or more tankers out of this "assembly line" disrupts the whole system, for the "slack" in equipment and its use has been figured to the absolute minimum. If East Coast refineries have to run to less than their heretofore operating capacity, for lack of crude due to diversion of some of their tankers, their overhead expense will jump up considerably on the per barrel of throughput and that increase in "overhead" will apply back through the tankers that continue to operate, through the pipelines in Texas and to the wells. That extra "overhead" will also apply to the terminals at the East Coast refineries and to all the marketing system there that may not be able to continue at its full capacity.

And this "overhead" means money that the oil companies will have to pay but which they stand not to get unless they add it to every gallon of product sold all over the East.

There is no intention of any oil men to build this situation up into any "scare shortage" unnecessarily, but they do believe that government officials should realize that such a "scare" is always a possibility when these officials start monkeying with the industry's delicately balanced mechanism from the well to the consumer.

With a deficiency of transportation, oil producers in Texas are quite likely to be

without a purchaser for their oil and marketers along the East Coast are quite likely to forego business that they normally would have which means that consumers may have to cut their uses of petroleum.

All this is more than just a possibility from any diversion of what may seem to be just a few tankers. Hence, oil men feel they should not hesitate to ask for more facts and figures on which the diversion is based, to have opportunity to review the operations of all the Allies supply of tankers, and perhaps have something to say about how their tankers may be used, even though they are to transport someone else's oil.

The final irony of it all is that the oil industry is decidedly not a bottleneck industry, nor can it be made one except by outside interference of its well-balanced wide-flung mechanism. Oil had some experience with muddling governmental hands in the last war, so oil men have that experience on which to ask to review proposed government actions in today's war.

OIL TAX NEWS

Planned 1c Federal Gasoline Tax Hike Hit by Price Administrator Henderson

NPN News Bureau

WASHINGTON, May 10.— Treasury Department's proposed 1c increase in federal gasoline tax ran into opposition this week, when Price Administrator Henderson and Federal Reserve Board Chairman Eccles appeared before House Ways and Means committee to urge that excise levies in new $3,500,000,000 tax bill be placed on goods competing with defense rather than on such non-competing items as gasoline.

Ways and Means committee members gave evidence of being impressed by Henderson-Eccles testimony, paying close attention and asking numerous questions during presentation.

'Talking Sense' on Tax

Rep. Disney, Okla., following conclusion of day's hearings, said Henderson and Eccles "were talking sense." Oklahoma Congressman also said he believed Chairman Doughton would support Henderson-Eccles program, which contemplates placing of excise taxes primarily on consumer durable goods instead of on a group of alleged luxury items, as has been proposed by Assistant Secretary of the Treasury Sullivan.

"We ought to sell more gasoline—not slap a big tax on it," Mr. Henderson told committee during cross examination by Rep. Dingell, Mich., who sought to show failure to place additional tax on gasoline might be inconsistent with Mr. Henderson's suggestion for 20% sales tax on new and used automobiles, to release men and materials for defense program.

Declaring any increased tax Congress might put on gasoline would have the same repressive features as other sales taxes on commonly used articles, Mr. Henderson stated:

Indicates Vast Supply

"Right now, in Texas, they have got a gimmick that prevents oil from getting out of the pipe as fast as it would go, and you only have to open it a little to get some more gasoline. Why shouldn't people have some gasoline? There is no competition. There might be some competition on transportation, as far as the defense effort is concerned, and it may be a question of locating some gasoline here or there in order to cover as big a territory as we have got, but I have been into this gasoline proposition pretty deeply, and I don't see any reason why we should restrict people using the cars that they have got by putting an additional premium on gasoline."

Rep. Dingell interrupted Mr. Henderson at this point to state that "in a very short time we are going to be in a position where we need gasoline for our planes and to ship to England, with the Iraq oil shut off. We are going to have to send more and more oil over there; therefore, we will want to restrict consumption the same as we would intend to restrict consumption of automobiles."

Gas Tax 'Too High'

Mr. Henderson replied: "if you put a few intelligent men together on the matter of increasing our oil, it would be pretty easy."

Earlier in his testimony, when asked by Rep. Treadway, Mass., for his views on Treasury's plan to raise $250,000,000 through a 1c increase in tax on gasoline, Mr. Henderson declared he thought this would be stepping tax up too high. He would, he said, prefer to tax individual who has enough income beyond ordinary living expenses to buy such articles as automobile, refrigerator, gas heater or oil burner. (Price administration office subsequently stated Mr. Henderson had no thought of restricting use of oil burners to curtail consumption of fuel oil, his idea being that fuel oil burner production should be curtailed to extent it may interfere with defense.)

Mr. Eccles, in extended statement to committee, supported tax program outlined by Mr. Henderson, but made no specific comment on gasoline tax situation beyond observing that "increases in the tax on gasoline and other commodities that are in abundant supply will make no significant contribution to our defense effort."

Oil Group Opposes 1c Tax Hike Plan

NPN News Bureau

WASHINGTON, May 10. — Burden placed on low income groups, labor, farmers and truckers, if Congress raises tax on gasoline, was emphasized this week by oil industry representatives appearing at Ways and Means committee hearings in opposition to Treasury's proposed 1c per gal. increase in federal gasoline tax (See NPN, April 30, p. 5).

These witnesses all of whom referred to opposition of Treasury proposal expressed in previous testimony before committee by Price Administrator Henderson and Federal Reserve Board Chairman Eccles, were:

Fayette B. Dow, representing American Petroleum Industries Committee, National Petroleum Assn., and Western Petroleum Refiners Assn.; Russell B. Brown, general counsel, Independent Petroleum Assn.; and J. C. Hunter, president, Mid-Continent Oil and Gas Assn.

Cross-Examine Dow

Committee members, expressing desire to save time, agreed to forego individual questioning of all witnesses except Mr. Dow.

Cross-examination of Mr. Dow was opened by Rep. Disney, Okla., who asked series of questions intended to emphasize burden additional gasoline tax would place on low income groups.

Rep. Crowther, New York, asked whether oil industry, like everybody else, should not contribute its share toward national defense, whereupon Mr. Dow pointed to heavy state and federal taxes already borne by gasoline which amount to a 47% retail sales tax.

Rep. Carlson, Kan., questioned Dow about argument advanced by some persons that gasoline should be taxed to conserve petroleum and was told oil industry is abundantly able to meet all demands, and that gasoline can be made from coal if and when petroleum supply approaches exhaustion.

Stresses 'Gas' Tax Burden

In a prepared statement, Mr. Dow had stressed effect of burden of gasoline tax in view of labor's great use of automobiles for transportation to work, importance of truck transportation, farmers' dependence on motor vehicles and fact income of half of all car owners is less than $30 per week.

Mr. Brown, in his prepared statement, told committee that Treasury had failed to submit statement on need for additional gasoline tax, declaring Assistant Secretary of Treasury Sullivan's mere inclusion of 1c increase in list of proposed "luxury taxes" was not an argument. Bulk of Mr. Brown's statement was devoted to evidence showing gasoline is a necessity, not a luxury. He pointed out that half of urban automobile travel is for business.

Mr. Hunter in statement submitted to committee, said: "Addition of 1c per gal. to the present disproportionately heavy tax on gasoline, which is a necessary commodity in the daily life of the average man, would be a further inconsistency with a policy of equitable distribution of the tax burden."

Oklahoma Senate Adds 0.5c To 'Gas' Tax Hike Bill

OKLAHOMA CITY, May 12— A 1.5c a gal. increase in Oklahoma's gasoline tax was indicated here late last week when the Oklahoma Senate added another 0.5c to the 1c hike approved earlier by the House.

Better than a promise

Buyers are bidding for more crude oil, motorists are buying more gasoline, defense industries are demanding more fuel oil, markets are stronger everywhere—and the season is only just beginning

The trend is upward—it's a year of promise

It's better than just a promise for Universal licensees, because:

Dubbscracking makes the biggest yield of high octane gasoline and other wanted products from high-priced crude or low-priced crude—from any kind of crude you can get, and

U. O. P. catalytic polymerization makes still more gasoline of higher octane rating from the cracked gases, and

U. O. P. inhibitor keeps the gum all out of this high octane gasoline and the anti-knock value all in, and

Dubbscracked fuel oil is a special product, better than straight-run—more B.t.u. per barrel

And other processes to make special defense products are available through Universal to any and all refiners who want them—plus the effective and friendly help of Universal refining specialists to get the utmost value from every barrel of crude

If you are not a Universal licensee you ought to be

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

New England Oil Men Discuss Problems

H. N. Blakeslee

BOSTON, May 8—NPN's camera "catches" some of the principals at the 18th annual meeting of the Independent Oil Men's Assn. of New England in Boston. About 1500 delegates attended, hearing Dr. R. E. Wilson, oil consultant to the OPM, discuss oil and the war. Other prominent oil men directed talks toward marketing and technical problems.

R. E. Wilson *Virgil Pinkley*

J. W. Scott *C. G. Morrill*

J. J. Franzman

R. L. Wentworth *J. A. Mawn*

H. B. Tower

W. C. O'Meara *F. E. Bergfors*

A. T. Doane

WITH THE ASSOCIATIONS

Value of 'Selective Selling' Told to New England Oil Men

(*Continued from page* 6)

stone Tire & Rubber Co., who led a discussion on accessory merchandising; James A. Mawn, Gulf Oil Corp., whose topic was "Credit Management"; and H. N. Blakeslee, American Petroleum Institute, who outlined accident prevention policies.

In his talk on field warehousing, Mr. Lowe stated that fuel oil, gasoline and kerosine represent the highest type of collateral for "secured" bank loans, and that most banks are anxious to extend credit to customers who offer field warehouse receipts as collateral.

"One of the first things that any concern contemplating the use of field warehousing must consider is current working capital", Mr. Lowe said, adding, "therefore, the problem is financial.

Borrowing Outlined

"Through the use of field warehousing to collateralize its stock of oil, gasoline and kerosine on hand, any oil distributing company or wholesaler can borrow from the bank on an almost unlimited line of credit, dependent only on the quality and quantity of the oil, gasoline or kerosine on hand from time to time. Banks will usually make advances against goods on hand from 75% to 85% of the cost value thereof, the amount depending upon the bank and the customer's previous connections therewith.

"Such current loans permit your company to lay in a substantial stock of oil, gasoline or kerosine in the off-season, when costs are lowest. These loans also guarantee that you will be able to market your goods in an orderly manner, and prevent your having to meet exact due dates on your bills payable."

John J. Franzman, Cities Service Oil Co., discussed automotive lubrication at one of the round-tables, and R. F. Lybeck, Colonial Beacon Oil Co., presented an illustrated talk titled "National Defense in the Air."

Convention was presided over by John W. Scott, Boston, Buckley & Scott Utilities, Inc., president of the association. Convention chairman was W. C. O'Meara, Quincy, Quincy Oil Co.

Kansas jobbers elected R. O. Brown, independent marketer to the presidency, with H. L. Funk, White City marketer as vice-president and D. E. Pittenger, Wichita independent, treasurer. C. E. Holmes, Wichita, K.O.M.A. secretary was re-elected.

Legislation Affecting Oil Marketing Previewed at Annual Meeting of KOMA

Special to NPN

WICHITA, Kans., May 12—A preview of new Kansas legislation was given today to Kansas Oil Men's Assn. meeting here for its 27th annual convention. This legislation was passed in the recent session and is designed to correct certain oil marketing practices.

Inner workings of unfair trade practice, loss-leader and gasoline tax exemptions laws were explained by B. E. Mitchner and Al Schenkosky of Kansas Department of Revenue and Taxation.

While it was admitted the success of any law depends on its enforcement, Kansas' new laws pertaining to petroleum marketing stand a good chance of correcting certain price cutting and unfair practices, it was reported.

Kansas' "coupon-book" method of accounting for exemptions from payment of state gasoline tax is expected to reduce materially possibility of "padding" gasoline tax exemption claims, it was said.

View 'Compensation' Bill

Status of bill providing for 3% compensation to marketers for their role as collectors of state gasoline tax was reported as "favorable" by Fred Kistler, K.O.M.A. president.

"This bill passed assessment and taxation committee favorably and was placed on the calendar," he said, "but objections seemed to be that there was a recognized loss at retail stations, and we were frankly told that if we could in some way pass some of this 3% on to the retail man, the bill would have passed without question." With a few changes, the bill will be re-introduced at the next session of state legislature, it was said.

API Meet to Probe Refinery Problems

NPN News Bureau

TULSA, May 12. — Two symposiums directed toward solving common everyday refinery problems will highlight the refinery division session at the mid-year meeting of American Petroleum Institute here May 19-22.

Under the general heading of "Fuel Economy in Refining", are papers discussing the economics of flue-gas re-circulation and economizers in fired tubular heaters, air preheaters for petroleum heaters, generation of steam as a factor in modern refinery heat economy, fuel economy at refineries and regenerative-type air heaters for refinery use.

Corrosion of refinery equipment and corrosion prevention on the water side of refinery equipment are the 2 general divisions into which the corrosion symposium has been divided. General papers will lay the background for more detailed discussions regarding solutions of corrosion problems. Water treatment, cathodic protection against corrosion and the de-acidizing and de-salting of crude are some of the subjects to be discussed.

Symposium on fuels will feature the results of the 1940 road detonation tests compiled from reports of the CFR committee. This paper will be presented by W. M. Holaday, New York, Socony-Vacuum Oil Co., Inc.

Another report on fuels by the CFR committee will present an evaluation of diesel fuels in full-scale engines. A report on the A.PI.'s motor fuel research will be given by D. P. Barnard IV, Chicago, Standard Oil Co. of Indiana.

Oklahoma's Governor Phillips and Kansas' Governor Ratner will speak at the general sessions.

Station Premiums Upheld in Atlanta

Special to NPN

ATLANTA, May 10—Georgia Supreme Court has upheld right of various Atlanta service stations to give away premiums in connection with the sale of gasoline.

Charles C. Moon, service station proprietor, sought to enjoin Grady Clark, Spur Distributing Co., Time Service Stations and Southern Oil Stores from giving away dishes, pots, pans, aluminum, silverware and profit sharing certificates with each gallon of gasoline sold.

Moon charged that some of the defendants were giving away cigarettes or selling them at less than cost and issuing lottery books "tending to debauch the morals of the general public." He alleged a conspiracy.

Decision Upheld

Judge A. L. Etheridge, Fulton Superior Court, denied the injunction. His decision was upheld by Supreme Court which declared that there was no evidence of a conspiracy, the defendants being keen competitors and pursuing different methods without any understanding between each other. The Spur company said that the wholesale cost of Ethyl gasoline is 14.71c per gal. and its premiums cost 0.89 to 1%, leaving a net profit of 5.3c in the retail price.

Decision was written by Justice Henry Duckworth, with all justices concurring.

There was evidence to the effect that the business of the petitioner had decreased considerably since defendants began methods of operation about which he complained.

Natural 'Gas' Group To Frolic June 7

NPN, News Bureau

LOS ANGELES, May 12. — June Frolic of the California Natural Gasoline Assn. will be held at the Riviera Country Club, Santa Monica, Calif., June

7, H. E. Leedy, Crane Co., chairman of program committee, announces.

The annual sports-fun fiesta of the association will get off to an early start—8:30 A.M. — when the first flight of golfers tee off. Feature of the afternoon will be a baseball game between the Majors and the Independents. "Tired and thirsty sportsters will find refreshments available without charge during the day," is the promise. Event is open to all natural gasoline, refinery, natural gas and men from allied industries.

Assisting Mr. Leedy on the committee are: Gordon Greene, Robinson Orifice Fitting Co.; Walt Landis. Crane Co.; George Christian, Crosby Steam Gage & Valve Co.; Harry Fiske, Ingersoll-Rand Co.; Glenn Gill, J. B. Gill Corp.; and Harold Dresser, Fluor Corp.

GCRA Members Hike Refinery Output

HOUSTON, May 12. — Refinery operations at plants of the Gulf Coast Refiners Assn. membership were hiked 7627 bbls. daily average the last half of April, according to report of G.C.R.A. At the same time, gasoline stocks were reduced by 14,501 bbls.

"It is expected that the refining industry East of the Rocky Mountains will find it necessary to operate at virtually 100% of its capacity by mid-summer in order to meet increasing demand for gasoline and various fuels," George Reid of Houston, G.C.R.A.'s executive secretary announced.

"The proper distribution of this production through available transportation facilities, however, is rapidly becoming the industry's most serious problem and it is of vital importance to the entire refining industry on the Gulf Coast," he added.

Stocks of diesel gas oil, diesel fuel oil and No. 5 fuel were reduced during the last half, while kerosine, Bunker C and all other types of gas oil increased, report said.

A.G.A. Natural Gas Section Nominates Robinson, Bay

Special to NPN

DALLAS, May 12—The natural gas section of the American Gas Assn. meeting in thirty-sixth annual session here last week nominated J. French Robinson, Cleveland, director of East Ohio Gas Co., as chairman of the section, with B. R. Bay, Omaha, president of Northern Natural Gas Co., as vice-president. Nomination to these positions is tantamount to election, with official announcement of election results scheduled at A.G.A.'s annual meeting in October.

API Golf Players Seek 'Pew Trophy'

W. K. Warren *Frank Prior*
Photo by Joe Strain, Tulsa

TULSA, May 12. — A handicap golf tournament, climaxed by a golf banquet and presentation of the "J. Edgar Pew Trophy," will highlight the entertainment feature of the American Petroleum Institute's mid-year meeting in Tulsa May 19-22, according to announcement by A.P.I.

Southern Hills Country Club will be the setting of the tournament, with new rules inaugurated to facilitate participation.

The trophy, presented by J. Edgar Pew, vice-president of Sun Oil Co., will be awarded the player having the lowest net medal score in the tournament. The golf banquet is scheduled for May 22 on the Roof Garden of the Tulsa Club.

Putting, approach and driving contests will feature the May 22 afternoon golfing session, says W. K. Warren, Tulsa, president of Warren Petroleum Corp., who is in charge of the tournament.

Mr. Warren, Frank Prior, president Stanolind Oil & Gas Co., and Don C. Bothwell of Darby Petroleum Corp., will have charge of A.P.I.'s golf tournament.

Twin Cities Oil Men Plan Golf Outing

CLEVELAND, May 12.—Annual golf tournament of the Twin Cities Petroleum Club, Minneapolis, Minn., is scheduled for June 3, with $1000 worth of prizes in store for tournament winners, according to Elwin E. Hadlick. Over 200 golfers are expected to compete.

Committee members for the event are: prize committee, G. W. Gilson, Bulk Oil Co.; Frank Schiefelbein, Midwest Oil Co.; desk committee, D. F. Atkisson, Skelly Oil Co.; A. E. Brown, Brown Steel Tank Co.; Walter Kunz, Kunz Oil Co.; score committee, F. J. Ellsworth, Anderson-Prichard Oil Corp.; F. L. Plane, Johnson Oil Refining Co.; and photograph committee, R. E. Rozell, Socony-Vacuum Oil Co.

Independents View Petroleum Problems

Special to NPN

SAN ANTONIO, Tex., May 13—Acknowledging that it is the patriotic duty of Americans to their country to analyze proposals, offer just criticism and make proposals deemed in the interest of the nation, directors of the Independent Petroleum Assn. of America met here today to determine policies beneficial in solving existing oil problems.

In recognizing problems confronting the oil industry, Frank Buttram, I.P.A.A. president warned that "during the period in which we are endeavoring to save Democracy for the world, let us be certain we guard against anything that might result in the losing of Democracy for ourselves." He listed as fundamental problems the lack of balance between supply and demand, present and prospective taxation, the "low price of crude" and unnecessary drilling operations.

Views 1c 'Gas' Hike

In speaking of taxation, the I.P.A.A. official discussed the proposed hike in federal gasoline tax and stated "many, including some in government, seem to shrink from the thought of imposing a 3% manufacturers' sales tax, yet if the federal government increases the gasoline tax 1c a gal., we will find the sales tax on gasoline in many states, including the federal tax, will amount to as much as 150% of manufacturers' price of gasoline."

From H. B. Fell, executive vice-president, came the charge that "falling exports and rising imports are squeezing domestic producers out of the market to an increasing extent."

Mr. Fell presented detailed analysis of the import-export crude situation and added: "We find exports have decreased about 320,000 bbls. daily since 1939 while imports have increased about 100,000 bbls. daily and this represents a total loss of 420,000 bbls. per day to domestic producers."

This loss, he continued "practically offsets the entire gain in domestic demand for petroleum since 1939."

"There is no reason or justification," he concluded, "for the domestic producers being required to accept this loss of market caused by excessive imports which situation threatens to become serious every month."

Association's tax policy committee is expected to suggest that I.P.A.A. go on record against additional federal gasoline tax. Washington should also be watched closely for any efforts to kick out the depletion allowance provisions of the revenue tax bill, committee advised.

From wage-hour committee came suggestion that drilling crews on oil wells be placed in "seasonal occupation" class, now exempt from hours provisions of the law.

Tulsa will be 1941 convention city for I.P.A.A., with dates to be announced later.

California Seeking Further Crude Hike

NPN News Bureau

LOS ANGELES, May 10. — San Joaquin Valley Oil Producers Assn. has joined other producer organizations in California in demanding a further increase in posted prices for crude oil at the well.

Accepting the recent adjustment in crude prices as a short but desirable step in the right direction, officials of the association contend that the adjustments should have been sufficient at least to restore crude prices to the level prevailing 15 months ago.

Dana Hogan, president of the association, said: "In the opinion of everyone who is solely in the oil producing business in California, the restoration of prices to their former levels or to a level commensurate with that of all other commodities is justified immediately."

Mr. Hogan pointed out that the prices of crude oil and its products still lag considerably behind the price level of other commodities and 23% below the price index of the materials the industry must purchase in order to produce and market its products.

Claim 13.8c Loss

In a comprehensive report on the cost of producing oil, compiled by an investigating committee of the Oil Producers Agency, representative California oil companies producing both heavy and light crudes are said to be operating at an average loss of 13.8c per bbl.

Producers, the report contends, have been operating at a loss at all times since the price reduction of Feb. 1, 1940, and are still operating at a loss, in spite of the upward revision of last month.

Glass Replica of Refinery Shows How Oil is Processed

PHILADELPHIA, May 9.—A clear view of the intricacies of petroleum refining is afforded the students of industrial processes of the Philadelphia district by the glass replica of a modern oil refinery presented last week to the Franklin Institute of Philadelphia by J. Howard Pew, president of the Sun Oil Co.

Glass refineries are not new in the oil industry but there are 2 special features about this one:

1—It is believed to be the largest made of a complete modern refinery, including Houdry cracking and mercury lube plant, and

2—It is placed in the vast halls of America's oldest and one of its most highly respected scientific organizations, where students are in daily attendance to further their studies of America's processes of industry and science.

This glass refinery is another landmark in oil industry public relations. Actually it will be studied by thousands of students a year, not just observed in passing as so many exhibits are at a world's fair.

Offers Opportunities

The Franklin Institute is visited daily by hundreds seeking specific knowledge. It has laboratories for research and a staff to carry on such research as a patron may require. It is a museum of a great variety of technical exhibits where the history of American industry can be studied. The field covered is just as wide as the roving curiosity and ingenuity of the man in whose memory the Institute was created and the present monumental building constructed: Benjamin Franklin.

To this building come classes in physics and chemistry, as well as history, from the schools and colleges in and around Philadelphia of which there are a great number. Classrooms are provided in the Institute in which Institute experts lecture.

Every oil man owes it to his education to visit this Institute the next time he is in Philadelphia. But do not do as the writer did and mistake the edifice for another world-flung insurance company's home office. Nor is it to be confused with an ordinary stuffy museum where one looks with staring eyes at various long dead wonders until one's feet say go home. This Institute is truly an educational force, with a drive behind the education to draw students into its many classrooms and chambers and then see that they get what they came for, out of all the exhibits and facts and laboratories within the Institute.

We write this praise of Franklin Institute not just because it deserves it nor because we feel sure countless oil men would like to see it if they but knew of it, but to emphasize to the oil industry the educational possibilities that will unquestionably come from this refining exhibit in the Institute.

Would Aid Industry

Oil men might well see that there are similar exhibits in other such educational centers in the country where the exhibits will be really seriously and vigorously used for education. Such education will in the long run help place the oil industry in a clearer and better light before the American people.

However, we would suggest for this and all other exhibits, that effort be made to show in some way, by large photos of groups and by statistical tables, the character and type and number of people who run these refineries and work in our producing and marketing divisions.

Students would be interested in knowing of the various classes of workmen needed, of the large number of technical men who man our industry. These students generally are looking for jobs for themselves and such information might be of value to them. Perhaps separate exhibits might be made up around this idea to go with such exhibits of all American industries? One may have harsh thoughts of a thing of steel and stone but not of men and women who really are the industry. It is the steel and stone that the average outsider sees so much of.

More Than Glass

Mr. Pew's gift to the Institute consisted not only of the glass refinery, but also a replica of an oil field with small rigs in place all resting on an exhibit of oil strata, typical of the average field.

The presentation was made May 8 at a dinner served in the rotunda of the Institute. Guests were heads of oil companies from different parts of the country and technical men. Eugene Houdry, inventor of the process depicted in glass, was present. President Staples of the Institute accepted the gift.

In making the presentation, Mr. Pew said that this glass model came from an industry whose span of life is hardly half that of the Institute itself. Of the glass model itself, Mr. Pew said:

No Mystery Here

"It lets you see the whole process; it lifts any curtain of mystery that may have obscured these operations; and in so doing it illumines the whole story of modern industrial progress. Medieval magic depended on secrecy and superstition to promote wonder, fear—and profit. Modern magic—the magic of free, cooperative, utilitarian enterprise — doesn't run to secrecy and sleight-of-hand; it thrives on the open air and sunshine.

"So the model refinery is designed to reveal, rather than to conceal. True, it demonstrates processes that are hardly older than this morning's sunrise—but secrecy about them would be sadly out of date. We think it is today's last word in modernity; but we know, too, that in some not so distant tomorrow it will be an antique. Today's model of up-to-dateness in refining practice will one day be as much a curio as Stevenson's Rocket or the first Model T. But if the Rocket and Model T hadn't been built, how would their proud successors of rail and highway have got here?" — W.C.P.

DEATHS

Frank Wright

Frank Wright, 78, an auditor for Standard Oil Co. of New Jersey for 43 years until his retirement 13 years ago, died on May 8 at his home in Ridgewood, N. J. He leaves his wife, Mrs. Jessie S. Stowe Wright; a son, Percy Wright; and 2 grandchildren, Mrs. Phyllis Hoffman, of Jackson Heights, N. Y., and Arthur Hoffman, of Brunswick, Me.

'Biggest' Recycling Plant Operations Scheduled

NPN News Bureau

TULSA, May 12.—An elaborate dedicatory ceremony for the Cotton Valley recycling plant, scheduled for completion within a week or 10 days, has been announced by J. R. Butler, manager of the plant's operating committee.

The recycling plant, dubbed by some as the "largest plant in the U. S." will be operated on a "community" basis.

Louisiana's Gov. Jones, members of the state minerals board and other celebrities are to be present at the ceremony. Louisiana fosters such operations on the basis that they represent the "truest form of conservation now known in the industry."

Figure In Sunray Personnel Changes

TULSA, May 12.—Glenn J. Smith, Tulsa, president of Wood Oil Co., has been elected director of Sunray Oil Corp. to fill the vacancy left by the resignation of R. Elmo Thompson.

Born at Deerfield, Ohio, Mr. Smith came to Tulsa in 1907 and entered the oil business 4 years later. Connected with the independent oil producing business for the past 30 years, the new director also operates extensive ranching interests near Wagon Mound, N. M. He is married and has 4 sons and 2 daughters.

Mr. Thompson resigned his position as director and executive vice-president of Sunray to take up the presidency of Superior Oil Corp.

At a directors meeting of Sunray Oil Co., operating subsidiary of Sunray Oil Corp., H. S. McClintock of Tulsa was elected vice-president in charge of the land and geological department and L. W. Bennett, treasurer, was elected to the directorship. C. H. Wright is president of Sunray Oil Corp.

L. W. Bennett *H. S. McClintock* *G. J. Smith*

'Esso' To Enlarge Turnpike Outlets

NPN News Bureau

NEW YORK, May 12.—Facilities for automobile servicing along the Pennsylvania Turnpike between Pittsburgh and Harrisburg will be approximately doubled by the Esso Marketers who announced on May 8 that work already was underway on the $500,000 improvement and enlargement program at the 10 service stations along the 160 mile route. Plans include a new station 7½ miles east of the western terminus of the highway at Hempfield, and parking, dining and gasoline pumping facilities will be greatly increased at the various other stations which were completed last autumn at a cost of $600,000.

Dining facilities at the large Midway station near Bedford, half-way point on the "dream highway," will be virtually doubled while at 3 intermediate stations, outside flagstone dining patios will be provided together with the enlargement of the regular lunch counter service. Added parking space will be built at the various stops, in some cases doubling, in others quadrupling present space.

To Double Pumps

Service station roadways will be appreciably widened and new driveways built to permit greater motoring ease. Gasoline pump facilities will be doubled at several of the Turnpike's stations while pump islands will be re-located at others.

Extensive traffic research made by Esso Marketers reveals that 1 in every 4 cars enters the stations as against 1 out of every 200 which enters the average service unit. These studies also demonstrate that motorists on the Turnpike purchase far more at these stations than at the average station.

This $500,000 construction program is expected to be ready for the summer's peak motoring season along the Turnpike.

Sohio Completes Pipeline To Benton, Illinois Field

NPN News Bureau

CLEVELAND, May 10.—Completion of its 25-mile 6-inch high pressure pipeline into the new Benton Field in southern Illinois was announced this week by Sohio Pipe Line Co., Standard Oil Co. of Ohio subsidiary. Line has been in use since May 4, company said.

In addition to this extension from Hoodville to Benton, Sohio has also recently completed a line from Hoodville to the Dahlgren pool. Since Jan. 1, 1941, Sohio Pipe Line has added 55 miles to its system in this section.

Crude Rail Rate Cut Weighed in Southwest

Special to NPN

ST. LOUIS, May 10—Rails report that Southwestern Freight Bureau is considering a proposal (S.W.F.B. 24269) for a 52.8c per bbl. reduction in rail rates on crude shipped from certain Louisiana producing points to Findlay, Ohio.

Proposed rate of 93.2c per bbl., based on 7.4 lbs. weight, would "enable refiners to make purchases from the producing points specified, which cannot be done on the present rate."

Origin points named in the proposal include Olla, Rochelle, Tullos, Urania, Winberry, Denkman, Montague and Wagoner, La.

2 Iowa Points May Get Reduced Rail Rates

NPN News Bureau

TULSA, May 10.—Shippers of light petroleum products seek to add Coralville and Iowa City, Iowa, to the list of origin points taking so-called "drastically reduced and truck competitive" rail rates to Illinois destinations within truck distance.

Proposal covers destinations in northern Illinois into which truck-competitive terminal rates from Bettendorf, Burlington and Davenport are now in effect. Reductions of approximately 33⅓ from Bettendorf and other terminal points to destinations within the trucking radius went into effect Oct. 5, 1940, and are said to have discouraged trucking from pipeline and marine terminals.

Rails Consider Slash In Refined Rates

NPN News Bureau

CHICAGO, May 12.—To meet truck competition, rails are considering publication of a 45c a bbl. rate (based on 7.4 lbs. weight) on cracking stock shipped from Gering, Neb., to Denver. New rate represents reduction of almost 95c a bbl.

Rail Shippers Weigh Fuel Oil Rate Cut

NPN News Bureau

CHICAGO, May 12—Shippers have proposed an 18.6c per bbl. reduction in the rail rate on petroleum residual fuel oil shipped from Falls City, Neb., to Chicago in an effort to meet truck and water competition. The proposed rate of 59c a bbl. is based on a 7.4 lb. per gal. weight.

Transfer of Tankers 'To Aid Britain' Sees Heavy Pipeline Traffic To East

NPN News Bureau

TULSA, May 12.—By the middle of this year, no less than 40,000 bbls. daily of Texas, Louisiana and Arkansas crudes will be moving by pipeline to midwestern and east coast refining centers, reports today indicate.

Movement of crude half-way across the continent and through southwestern and Illinois oil fields—is said to reflect the increasing shortage of tanker facilities in coastwise traffic and the shifting of crude supply sources resulting from declines in production from the "more logical" supply reservoirs.

Approximately 20,000 bbls. of East Texas, North Louisiana and Arkansas oils are "about to be moved" by pipeline to the Atlantic coast refinery of Standard Oil Co. of New Jersey, according to reports.

This move represents a direct reversal of the former directional flow. It formerly moved south through Louisiana Standard's pipeline to Baton Rouge, La. and from there to the Atlantic coast by coastwise tanker. Crude will now change its direction and by utilizing existing facilities of 6 or more pipelines, will eventually end up at New Jersey Standard's Bayway, N. J., plant. This move is said to be a direct result of conditions brought about by the requisitioning of tankers by the U. S. government "to aid Britain."

To Begin June 15

For the first time in history, it is believed, crude will be moved by pipeline from Texas' Gulf Coast to the Mid-West. This shipment of co-mingled East Texas and "other Texas" oils will begin about June 15 when the last link in the transportation chain is scheduled for completion.

Much of the crude has been accumulated for the initial through-movements. This shipment will be made by Stanolind Pipe Line Co., although other pipeline facilities will be used. By the middle of the year, a full 20,000 bbls. of the East Texas-Gulf Coastal oil is expected to be moving into the Mid-West.

View Canada Shipments

Rails may get a small share of the cross-country movement of crude, if proposals now being considered should be placed into effect. Southwestern Freight Bureau has a proposal which would reduce by 52.8c a bbl., to 93.2c, the rail rate on crude shipped from several Louisiana producing points to Findlay, Ohio. This, it is said, would "enable refiners to make purchases from the producing points specified, which cannot be done on the present rate."

There is quite a bit of discussion in the Southwest over a contemplated movement of Texas crude by rail even as far up as Saskatchewan, Canada. This movement, it was said, would supplement supplies now being obtained from western U. S. fields.

Pipeline Application Dismissed by FPC

NPN News Bureau

WASHINGTON, May 10. — Federal Power Commission has dismissed application of North Dakota Consumers Gas Co. for certificate of public convenience and necessity for construction of natural gas pipeline from Mandan, N. D., to serve communities in North Dakota and Minnesota, on ground of failure of applicant to make required further showing of finances and other matters.

Application filed Dec. 30, 1938, by company proposed building of facilities for natural gas transportation from point connecting the existing main line of Montana-Dakota Utilities Co. at Mandan, N. D., east through Fargo, N. D., to Moorhead, Minn.; southward from Fargo to Wahpeton, N. D. and Breckenridge and Fergus Falls, Minn.; northward from Fargo to Grand Forks, N. D. and East Grand Forks, Minn.; and eastward from point in Grand Forks county, N. D. to Crookston, Minn.

'Permanent' Proration Bill Shunned by Texas Senate

Special to NPN

AUSTIN, May 12—Texas Senate today refused to set date for consideration of a House-approved bill to make the state's proration laws permanent. With the end of the session nearing, proration is still one of the major issues on the calendar. Present proration laws expire every 2 years, and if no law is passed this session, proration will end Sept. 1, 1941.

Omar to Resume Operations

TULSA, May 12.—The 5000-bbl. refinery of Omar Refining Co. at Garber, Okla., is being reconditioned and operations will be resumed within two or three weeks, according to reports here. Plant reportedly will process approximately 3300 bbls. of oil daily.

OIL TRANSPORTATION

4 Tanker Charters Granted to Aliens

NPN News Bureau

WASHINGTON, May 10. — Maritime Commission reports approving during week ending May 3 of charter to aliens of 4 tankers and 1 barge and tug, as follows:

Tanker W. S. MILLER by California Texas Oil Co. Ltd., charterer, for sub-charter to The Texas Co. (China) Ltd., for a voyage from Hong Kong to Shanghai with lubricating oil.

Tanker L. P. ST. CLAIR, owned by the Union Oil Co. of Calif., by the Standard Oil Co., N. J., for charter in lieu of the tanker LIVINGSTON ROE to West India Oil Co., S. A., for one voyage with a cargo of clean products from Baytown, Tex., to Cristobal, or Balboa, or Punta Arenas, Costa Rica, loading commencing on or about April 30, 1941.

Tanker F. W. ABRAMS or substitute vessel of the owner, by Standard Oil Co. of N. J., to Imperial Oil Shipping Co., Ltd., with privilege of sub-chartering to Imperial Oil, Ltd., for one voyage with a cargo of crude oil from Cartagena to Montreal, loading commencing about May 1, 1941.

Tanker T. C. McCOBB or substitute vessel of the owner by Standard Oil Co. of N. J., to Lago Oil and Transport Co., Ltd., for one voyage with a cargo of crude oil from Puerto La Cruz, Venezuela, to Aruba, loading commencing about May 1, 1941.

Barge OIL TRANSFER NO. 30 and tug K. WHITTELSEY by Great Lakes Transport Corp., Detroit, chartered owners, to Imperial Oil Shipping Co., Ltd., with the privilege of sub-chartering to Imperial Oil Co., Ltd., the parent company, for 3 voyages per month over the period from May 1, 1941, to November 1, 1941.

Commission also disapproved applications for charters as follows:

Tanker AURORA by Socony Vacuum Oil Co., Inc., to Vsesoyuznoe Obedinenie "Soyuznefteexport" from ports in California to Vladivostok, loading on or about May 22, 1941.

Tanker D. G. SCOFIELD by Standard Oil Co. of Calif., to Vsesoyuznoe Obedinenie "Soyuznefteexport" for one voyage with straight run gasoline from a port or ports in California to Vladivostok or Nagaevo, U.S.S.R., loading on or about June 10, 1941.

Tanker Orders Hit New High in U.S.

NPN News Bureau

NEW YORK, May 12.—Building of ocean-going tankers in the U. S. has reached a new peak, with 142 vessels of 2000 gross tons or over now under construction or on order. These new tankers have an estimated gross tonnage of 1,354,260, or over half the tonnage of tankers in the same class afloat under the American flag as of March 15, 1941, American Bureau of Shipping reports.

Contracts for a total of 75 tankers were placed in April; 72 for the U. S. Maritime Commission and 3 for private companies. Maritime Commission's contract, placed with the Sun Shipbuilding & Drydock Co., includes 36 tankers of 10,750 gross tons each and 36 of 8350 tons each. Total cost of these single-screw, high speed, defense type tankers is estimated at $180,000,000.

Private Contracts

Private companies contracting for new tankers during April were: Socony-Vacuum Oil Co., Inc., 2 tankers of 9800 gross tons each, and National Bulk Carriers, 1 tanker of 11,200 gross tons. Bureau also reported completion of the 10,731-ton tanker "Corsicana" for Socony-Vacuum.

Further increased activity continued in barge construction, with 5 new oil barges contracted for and 5 more completed during April.

Companies contracting for barges were:

No.	Company	Gross Tons
1	Pan American Rfg. Corp.	455
1	Young Bros., Honolulu	500
2	American Barge Line Co.	375 each
1	American Barge Line Co.	450

Companies completing new barges in April were:

No.	Company	Gross Tons
1	American Barge Line Co.	450
1	Merry Bros. Brick & Tile Co.	420
2	Nashville Bridge Co.	801 each
1	G. B. Ziegler Co.	450

U.S. Asks Transfer Of Pacific Tankers

NPN News Bureau

LOS ANGELES, May 10—Operators of Pacific Coast tankers were reported this week to be conferring with Administration officials in Washington on the transfer of four tankers for immediate use in Atlantic runs, with the prospect that further requisitions will be made in near future.

Pacific Coast suppliers are said to have scheduled tanker sailings well ahead in order to keep the bulk plants, scattered throughout the Pacific area, supplied with necessary working stocks. Any further withdrawals of tankers from the Pacific would probably require the pooling of the remaining tanker fleet of U. S. registry operating in this area, reports indicate.

Approximately 50 tankers are said to be engaged in handling Pacific coastwise, inter-coastal and Alaska-Hawaii-Canal Zone oil movements from California.

Requests for transfer received by tanker operators are understood to be in proportion to their total operating tonnage, one ship being represented by a vessel of 10,000 tons, to operate between Port Arthur, Tex. Companies not required to release a full ship on the tonnage basis for a full year, may be asked to surrender a tanker of 10,000 tons for 1 or more voyages during the next 12 months, according to report.

Gulf Gets 4 Tankers Claimed by Belgium

Special to NPN

BEAUMONT, Tex., May 10—Gulf Oil Corp. has been awarded four tankers claimed by the Belgian Government, in a decision handed down by Federal Judge Randolph Bryant.

Attorneys for Belgian Government said they intended to file appeal against the dictum of Judge Bryant, who took the case after a trial last March at which Belgium maintained that the vessels had been requisitioned by her for the British Ministry of Shipping. All four of these ships, "Goodgulf", "Belgian Gulf", "Spidoleine" and "Lubrafol" had been sold by the Belgian Gulf Oil Co. to the Gulf Oil Corp. of Pennsylvania, which subsequently turned them all over to Panamanian registry.

ICC CALENDAR On Oil Trucking

DECISIONS

Peter B. McQeone, Prospect Park, Pa., doing business as A.M.&A. Transfer. (M. C.-89820). Operation by applicant as a common or contract carrier by motor vehicle of petroleum products, in containers, from Marcus Hook and Philadelphia, Pa., to Wilmington, Del., and points in New York, New Jersey and Conn., and of empty containers in the reverse direction, over irregular routes, found not shown to be required by public convenience and necessity nor to be consistent with the public interest or the national transportation policy. Application denied.

Charles A. Chipman, and Arthur W. Shaner, doing business as Trio Transportation Co., Bolivar, N. Y., (I. & S. docket M-1920). Proposed reduced minimum rate of 25c, minimum 50,000 gals., on petroleum products, in tank trucks, between Bolivar and Farmers Valley, Pa., found not justified. Suspended schedule ordered cancelled and proceeding discontinued without prejudice to the filing of a new schedule in conformity with findings.

Soldiers and Ships Bring New Boom To Wilmington, N. C., Oil Marketers

This is the 10th in series of NPN articles on how defense projects are affecting oil marketing in the United States.

FIRST SOLDIERS ARRIVE at Camp Davis, 30 miles north of Wilmington, in a truck convoy from Camp Custer, Mich. By June 1, it is expected that this post will be ready for occupancy by 20,000 soldiers

WILMINGTON, N. C.

● What happens to gasoline gallonage when a boom springs up in a city already booming from nearby defense activities?

Oil marketers of Wilmington, North Carolina, are wondering. Their gallonage already is running 20% to 75% ahead of last year. And the real boom is just beginning.

Wilmington's defense boom started about 4 months ago when Uncle Sam began pouring millions of dollars and thousands of men into the building of Camp Davis at Holly Ridge, 30 miles north. This Army post is nearly completed, yet there are still thousands of construction workers on the job (17,000 at end of April) and they are driving in from 50 and 75 miles around.

Oil marketers say the real boom is "in the making". A new shipyard is being rushed to completion at Wilmington. This North Carolina port will soon be the scene of a $42,000,000 project to build 37 vessels. First keel will be laid in June. Contract was awarded late in April for a $15,000,000

TRANSPORT TRUCKS load at Wilmington, N. C., for points up to 300 miles distant. Semi-trailer equipment is generally around 4000-gal. capacity, though some go above 4300 gals. and still stay within the state's 40,000-lb. limitation

SHIPYARD CONSTRUCTION AT WILMINGTON, N. C., provides jobs for 1300 workers whose cars are parked outside. First keel will be laid in June; 37 vessels will be built on 9 new ships ways

Marine Barracks to be built about 40 miles north of Wilmington. And a $25,000,000 air base is planned a few miles farther up the road.

Meanwhile, vanguard of 900 Army officers and their families is arriving to make homes in Wilmington. Some 20,000 soldiers will be quartered at Camp Davis but the officers will not live at the post. They will commute daily from Wilmington and wherever they can find homes.

Wilmington, which had a 1940 population of 33,403, is nearing the 50,000 mark now, with some 5000 shipyard workers to be brought in this summer from other sections.

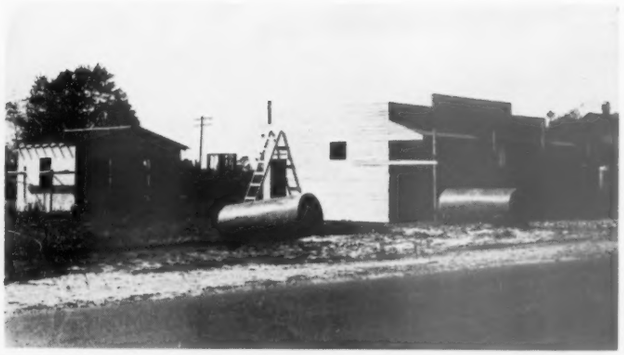
Amidst this boom, an oil man and his 7 sons have just launched a new, independent jobbing business. They have just built a new bulk plant and are so busy installing new pumps and equipment at their outlets that they "haven't had time to build the several new stations we are planning."

Station building in Wilmington because of the "second boom" is still in the paper stage. Several marketers have their plans drawn, sites picked. But they haven't started work yet. In the past year, however, there have been a number of stations built, remodeled and improved.

Boom now in station construction is along "defense highway", that 30-mile stretch of road from Wilmington north to Camp Davis. There are many signs of new outlets being born. Holes are being dug in front of stores for tanks, concrete forms are set for pump islands, tanks stand by the roadside and framework takes shape as station canopies. And not all of this construction is the "country store" type of outlets, either. Some are brick buildings and others attractive frame structures (see accompanying pictures).

Nearer Camp Davis, one marketer is planning immediate construction of a new bulk plant (he recently completed construction of a branch bulk plant in another county). This marketer is also considering adding 2 more tank

THIS AERIAL VIEW shows Camp Davis when this Coast Artillery anti-aircraft firing center was more than 87% complete



STATION TANKS signify another new outlet to catch the traffic between Camp Davis and Wilmington

SCENIC SETTING for new station being built on highway between Wilmington, N. C., and Camp Davis

OPEN A FEW WEEKS, this new station in Wilmington is on the route to Camp Davis

ANOTHER OUTLET NEARLY READY TO OPEN on the Wilmington-Camp Davis road

trucks to take care of anticipated business.

Marine terminal facilities at Wilmington, probably totaling near 2,000,000 bbls. capacity, might seem to be ample. But 2 terminals—at least—are going to add tankage. One recently installed loading rack meters to speed handling of transport trucks and at least one other terminal may follow suit soon. At another terminal, the close proximity of the shipyard project has required the building of a new tank car loading rack.

Wilmington is right at the top among Atlantic Coast ports in the throughput of its oil terminals. In 1940, U. S. Army engineers report more than half a billion gallons of petroleum products were received at Wilmington. Probably a third of this volume, at least, moves by transport truck to points up to 410 miles (820 miles roundtrip) distant.

One terminal loads trucks exclusively, not using its tank car rack at all. Other terminals use trucks, barge and rail in varying percentages.

There is 1 terminal where in rush hours 25 trucks have been loaded at its 2 loading racks (4 spots in all). That is about 1 truck every 20 minutes—checked, loaded and billed. Averaging 4000 gals. per truck, that means a throughput of about 100,000 gals. in 2 hours.

Station Building Plans

Not including the country-store type of outlets, here are the station-building programs of some companies as told to NPN's representative:

Company A has built 3 new stations since last August.

Company B has built 2 new stations in last several months, is building a new one now at Holly Ridge (Camp Davis).

Company C plans to build 2 new stations.

Company D has built 1 new station this year, revamped several.

Company F plans "several new stations this year."

Company G is building "only 1 new station right now."

Also, some of the companies included above are planning new stations but to couple mention of these with above data would be to reveal plans of individual companies.

Jobbers Use Transports

Railroads have reduced their freight rates repeatedly in the past few years, seeking to regain the tonnage lost to transport trucks hauling out of Wilmington marine terminals. Some rail rates now are only 30% of what they were several years ago. But the transport trucks continue to flourish. In fact, equipment now on the road is generally in far better condition than when the trucks had a larger "margin" to operate on a few years ago when rail rates were higher. Most of the tractors are less than 2 years old, with many 1941s. In a number of instances, both the tractor and semi-trailer units noted were brand-new.

Many jobbers operate their own

LARGE STATIONS BUILT in Wilmington, N. C., within past 5 years are "going to town" with gallonage booming because of defense activities. **LEFT**, station with plenty of headroom built by Hughes Brothers, jobbers, includes one-stop facilities and offices. **CENTER**, downtown major company station. **RIGHT**, one wing of the $80,000 service station built by MacMillan & Cameron, jobbers

RAPIDAYTONS' STURDINESS ASSURES *Long Life*

...and adds to their popularity with LEADING OIL COMPANIES

Proof positive of RAPIDAYTONS' built-in ability to "take it," is the fact that thousands of them are in use by leading oil companies. So impressed are these companies with their *sturdiness* and *simplicity* that they are buying more and more RAPIDAYTONS all the time.

Constant daily service is assured. Lasting beauty, too, comes with the BAKED-ON enamel finish. After long, hard usage these pumps retain their accuracy, their positive action and their beautiful appearance.

Write TODAY for handsomely illustrated booklet describing the many fine features of this sensational pump.

RAPIDAYTON *Computing Pump*

THE DAYTON PUMP & MFG. CO., DAYTON, OHIO

BRICK STATION AND TOURIST CABINS represent a substantial investment in one project along the Camp Davis road

JOBBERS' TRANSPORT TRUCKS load at their ocean terminal in Wilmington, N. C. Three of the four shown here are 1941s.

TWELVE TRUCKS AN HOUR can be loaded at this rack and another, just like it (not shown). During a rush period recently, 25 trucks were loaded in 2 hours for a total throughput of about 100,000 gals. at the 4 loading spots of these two racks

transport trucks. Some haul from ocean terminals to their bulk plants for distribution by local trucks to stations and the tankwagon trade. Others haul to bulk plants and direct to stations equipped with sufficient storage to take a full load or at least a large compartment.

The for-hire transporters generally charge the same rate as rail freight, depending on their superior service to hold the business for them. The day of the "fly-by-night" operator, with cut rates and poor—and even unsafe—equipment and overworked drivers, is gone. Transports operate on definite schedules, far faster and more dependable than rails, according to some marketers who make use of these carriers.

Tractor and semi-trailer is the type of equipment used. Tank capacities range from 3800 or 3900 gals. to above 4000, depending on type of tractor and tank used. (North Carolina has a 40,000-pound weight limit). Special construction of tanks or use of high tensile steel may boost capacity limits several hundred gallons higher. Largest tank among the several hundred transports observed in North Carolina by NPN's representative was one marked 4345 gals. but the owner of this unit said "there's one still bigger, right at 4400 gals."

Five or 6 transports in the yard at one time is not uncommon. "But come back when we are busy—we'll show you trucks lined up 2 abreast for 2 blocks down the road," said a dispatcher at one terminal.

Transport trucks constitute much of the truck traffic on roads leading out of Wilmington. Coming into the North Carolina seaport, NPN's representative counted 18 loaded transports in the last 20 miles. Like other truck drivers—"knights of the highway"—the transport drivers are uniformly good operators and courteous to passenger car traffic.

Running night and day on round-trips up to 700 and 800 miles, the trans-

Another New Day Dawns!

PETINCO

IN 1885, S. F. Bowser conceived an entirely new idea—an idea that resulted in his inventing and building the World's first self-measuring pump! That idea, as history has proved, was destined to play an important part in the petroleum industry . . . a part so important that it completely revolutionized the method of retailing and dispensing petroleum products.

AND NOW . . a NEW DAY DAWNS! For Bowser has conceived another entirely new idea that, too, is destined to revolutionize present methods of selling and delivering gasoline to the service station. That new idea is PETINCO (Petroleum Inventory Control) System, a system that for the first time provides a new and entirely different function for the retail pump—for now, in addition to retail dispensing, the pump ALSO becomes the dominant factor in controlling deliveries to and purchases by the service station.

Marketing executives who want to drastically cut delivery and bulk plant costs . . . avoid unnecessary credit risks . . . build gallonage . . . stop the sale of bootleg products through their stations, insure the public of honest measure, and accomplish other benefits, owe it to themselves to investigate this new field-tested and proved system. Complete information will be furnished upon request.

BOWSER ESTABLISHED 1885

S. F. BOWSER & COMPANY, INC.
FORT WAYNE, IND.

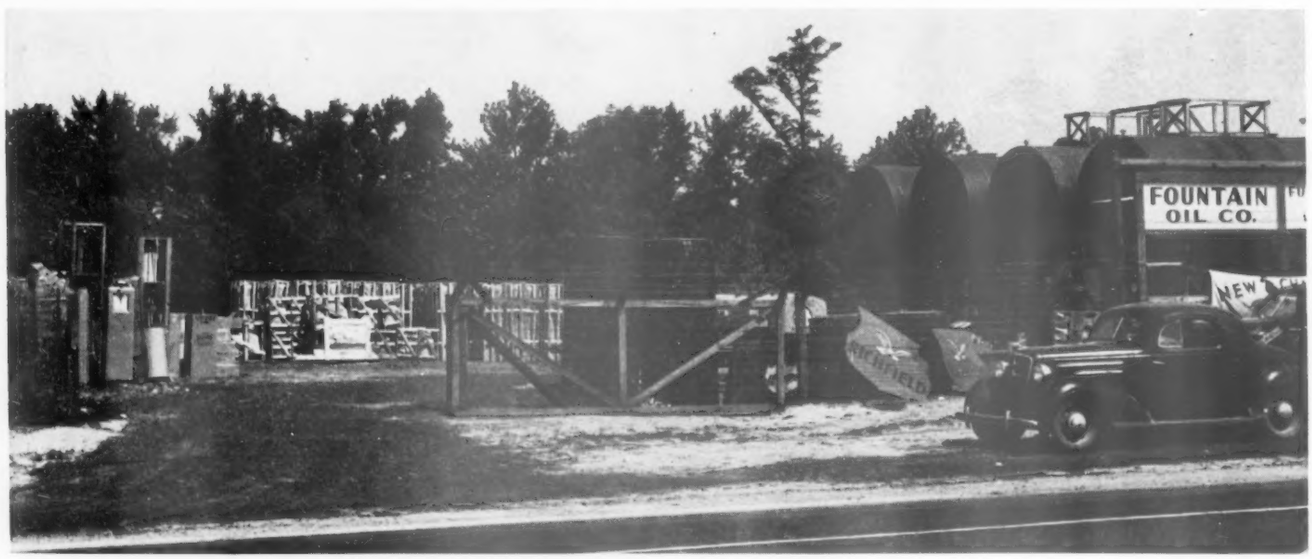
FATHER AND SEVEN SONS organize new oil jobbing company. Left to right, Mr. Fountain and his sons, Clayton, Millard, Alton, Elmo, Woodrow, Garland and Archie. Their ages are from 21 to 34, and their jobs in the company range from office work to driving trucks. All but one—Archie, the youngest—are married (and he's going to take the step soon). Baby of the family is the lone daughter, Lila, who is going to join the office force this summer as soon as she finishes a business school course

ports pile up mileage fast. Some tractors 2 years old or less have upwards of 300,000 miles to their credit. This heavy and sustained mileage involves keeping the tractors in top-notch condition. One jobber operating 2 semi-trailer units has 3 tractors (two are 1941 models and he is getting a third 1941 soon) employs a full-time mechanic. He keeps the tractors and trailers greased. The tractors are rotated so that at all times 1 is in the yard for servicing.

Jobber and 7 Sons Organize New Oil Company

There is no lack of manpower to run the Fountain Oil Co., new independent jobbing company of Wilmington, N. C. It was organized by W. G. Fountain and his 7 sons, all of whom work for the company. And when his one and only daughter, Lila, gets out of business college in a few weeks, she is going to join the office force. She is the youngest of the family. The boys range in age from 21 to 34; all are married except the youngest and "he's thinking about it."

Each of the Fountain boys is assigned to a particular job—office work, station supervising, truck driving and other functions of operating and managing an oil jobbing company. But they still need to employ 1 or 2 "outsiders". Mr. Fountain, managing the company, was for 14 years a major company commission agent. Then he



NEW JOBBER BUILDS BULK PLANT, BUYS NEW EQUIPMENT for all of his outlets. Fountain Oil Co., of Wilmington, N. C., bulk plant yard shown here, made its first delivery April 3, and is still crowded with packing cases of gasoline pumps, lubesters, air compressors and other equipment. This is only an overflow of what's stored in a nearby warehouse. Company is racing to get pumps to "cash in" on defense-boom gallonage

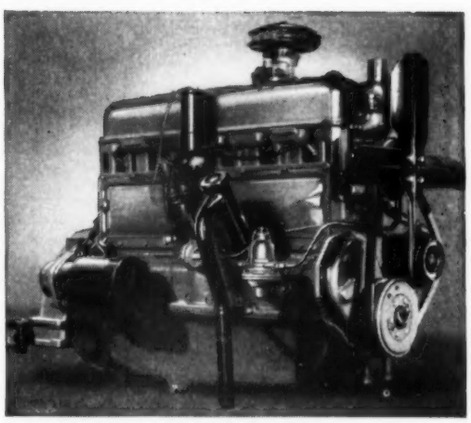
GMC Announces
MORE POWER *than ever*
for THE 1½-TON RANGE

General Motors Trucks give you *greatest pulling power* in every engine size. And now, in addition to the standard "228," GMC makes a new "236" engine available for 1½-ton models. With only 236 cu. in. displacement, this new GMC engine develops 97 horsepower at 3200 r.p.m., and *192.5 foot-pounds of torque at 1000 r.p.m.* It introduces new highs in performance in light-duty truck operation. And it gives you GMC's famous Turbo-Top Pistons and revolutionary gas-saving combustion chambers.

See how much more you get
AT GMC's LOW PRICES!

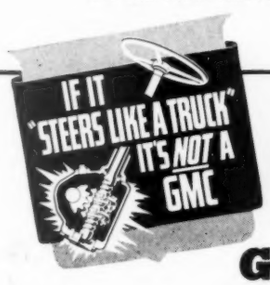
GMC Ball-Bearing Steering introduces real "passenger car steering ease" in trucks. GMC Cradle-Coil Seats are a revelation in comfort. GMC factory-built bodies are sturdy and extra roomy.

Our own YMAC Time Payment Plan assures you of lowest available rates



New GMC "236" Engine

This new 236 cubic inch 97-horsepower GMC Super-Duty Engine now is standard in all 2-ton GMC Trucks, and is available at slight extra cost in 1½-ton models.



GMC
GASOLINE·DIESEL

***America's* LOW-PRICED TRUCK OF VALUE**

ELIMINATING DELAY in the gauging of tanks and in handwriting multi-copy invoices by this recently-installed metering system has speeded the loading of transport trucks at Riverside Terminal Co.'s Wilmington, N. C., according to Plant Superintendent Perryman. The 2 meters (300 g.p.m. capacity each) automatically print 4 copies of an invoice showing exact number of gallons delivered. Meter can be set for amount to be delivered, then as tank comes within 80 gals. of that amount, a device slows down rate of flow and cuts off automatically at full amount, thus avoiding spillage, Mr. Perryman pointed out. This ocean terminal is owned and operated by a group of independent jobbers

decided to try his hand at being an independent jobber. The Fountain company is pioneering a widely-advertised brand which has never been sold before in the Wilmington area. He trucks his supplies from a nearby ocean terminal.

Trucking equipment now consists of 3 tank trucks, a new pick-up and a stake-body truck. A new truck with a new 1500-gal. tank will be added in a few weeks.

Everything about the bulk plant is brand new, from the warehouse roof to the galvanized buckets and loading line nozzles. There are four 12,000-gal. tanks, gravity feed to the loading rack. Deliveries will be made within 30-mile radius of Wilmington.

First deliveries from the new plant were made on April 3. Since then, the Fountains have been busy as beavers getting new equipment installed at ALL of their outlets.

"Yes sir, I have learned my lesson about station equipment," said Mr. Fountain. "When I was a commission agent, I had to pay for a full-time mechanic to keep gasoline pumps and other equipment in repair. And I paid him a plenty. So, we are starting off with new pumps and equipment at every one of our outlets, leased and otherwise. Then we won't have to worry about it getting out of order. And that will give us time for more important things in building up this business."

Bulk plant yard of the Fountain company was crowded with packing cases of new equipment — gasoline pumps, lubesters, air compressors and other items for stations. But this was only part of the story, Mr. Fountain explained, the equipment in the yard was simply the "overflow" from another warehouse down the road, he said. The bulk plant had been operating exactly a month when NPN's representative visited the Fountains. Each day the truck and an installation man had been busy putting in the station equipment, as the Fountain company raced to "cash in" on the gallonage boom that has come to Wilmington with defense activities.

"We plan to build several stations," said Mr. Fountain, "but we've been so busy getting the equipment installed at our leased outlets—we started off with 43 leases—and signing up new accounts, that we haven't gotten around to station building yet."

Mr. Fountain said he has been a subscriber to NPN for over 10 years.

Ocean Terminal Is Owned And Operated by Jobbers

Another independent jobbers' enterprise in Wilmington is Riverside Terminal Co., owned and operated by a group of North Carolina jobbers who buy in cargo lots at the Gulf, charter tankers to bring it up, transport it in their own trucks and sell under their own, private brands.

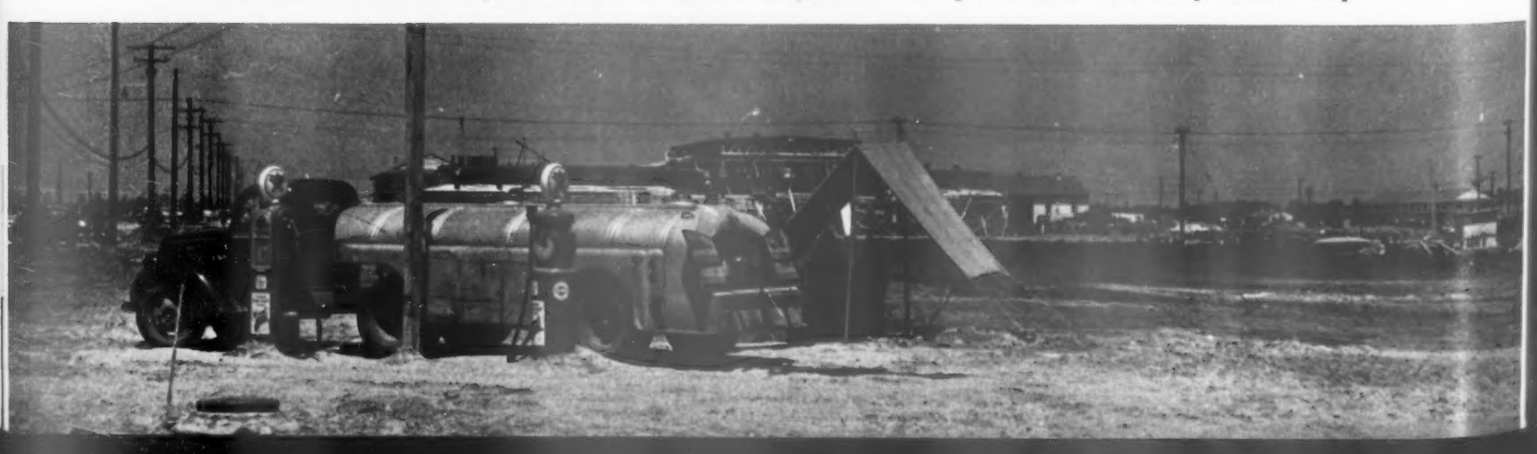
The jobbers' group purchased the terminal from a major company which built a new plant farther down the river. There are two 17,000-bbl. and one 5,000-bbl. tanks. But the jobbers' group intends to add enough tankage so it can handle a full-sized tanker. In reconditioning the terminal, the jobbers' group installed new lines from the pump house and put in two 25-ft. sections of 6-in. hose at the dock. It is planned to replace the pumps and motors with larger and faster units.

Loading rack was recently equipped with 2 large meters (300 gals. per minute) so that loading of transports could be speeded up. Meters automatically print 4 copies of invoice, showing exact amount delivered into the truck tanks. Meters can be set to any desired amount. When delivery reaches within 80 gals. of this set amount, rate of flow is reduced and automatically cuts off entirely when total amount has been delivered. This prevents spillage, it was explained by Plant Superintendent Perryman.

Jobber Operates Large Terminal

Largest terminal at Wilmington is that of the Cape Fear Terminal Co., which is jointly owned by The Pure Oil Co. and MacMillan & Cameron, an independent jobbing company. Majority interest in the terminal company is controlled by Pure Oil. Management of the terminal is supervised by Bruce Cameron, active partner in MacMillan & Cameron. The Cape Fear terminal has 16 tanks totaling 513,800 bbls. capacity. An additional 55,000 bbls. is to be installed, making the plant one of the largest on the Atlantic seaboard. Mr. Cameron also

TEMPORARY FILLING STATION to fuel Army trucks at Camp Davis, N. C. Note the tent which provides shade for station attendants. Construction plans include a number of permanent filling stations to fuel Army vehicles only



It's tough on the balance sheet...

SPLITTING CUSTOMERS IN HALF!

JOBBERS and DEALERS know best customers are mighty choosy about what goes in their crankcases these days! Many a customer will buy his gas in one place and his oil in another.

Why let these "half" customers drive away — when a Pennsylvania Motor Oil would make "whole" customers out of them? The demand for emblem Pennsylvania is enormous. It's something to be reckoned with — and reckoned up — on your own balance sheet! Ask a Pennsylvania Grade Crude Oil Association man, or write us direct.

Oil City *Pennsylvania*

MEMBER OF PENNSYLVANIA GRADE
Guaranteed
100% PURE
PENNSYLVANIA
OIL
CRUDE OIL ASSOCIATION
PERMIT NUMBER .....
Made from the highest grade crude oil in the world
COPYRIGHT 1937 U.S.A. BY PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
TRADEMARK REGISTERED U.S. PATENT OFFICE

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION

THREE HUNDRED TRAILERS will provide housing for shipyard workers. These "mobile housing units" are government-owned and will be located in a landscaped parking area now being built. As shown here, the trailers are stored until parking area is finished, although some private trailers—occupied—are shown here, too

FIRE DESTROYED BULK PLANT of Jacksonville, N. C., jobber the day before the NPN representative visited this defense boom town. This picture was snapped by Camp Davis photographer who happened by in nick of time. Jobber plans to rebuild plant with new equipment

heads a company operating 2 tugboats and 2 barges operating from Wilmington to Fayetteville, N. C.

(Editor's Note: A special article on MacMillan & Cameron's operations will appear in an early issue of NPN.)

Fire Destroys Boom Town Plant, Jobber to Build New One

Jacksonville, a North Carolina town of 873 people about 50 miles north of Wilmington, is almost completely encircled by the new $15,000,000 Marine Corps defense project, the New River Marine Barracks. With the Navy Department's hush-hush policy, local people said they had no details about the project but had heard rumors it was to cover 88,000 acres or more and provide quarters for 12,000 marines who have been in Cuba.

The day before NPN's representative arrived in Jacksonville, there was considerable excitement locally. And it was heightened by fact that a thousand job-seekers had poured in, following announcement of construction contract 2 days before. It was the magic word: "Fire!" Bulk plant of New River Oil Co. was going up in flames. Fire engines were called from nearby Camp Davis. When it was finally extinguished, the warehouse and all piping and fittings were destroyed.

B. J. Holloman, owner of this oil jobbing company, attributed the fire to a backfire from a gasoline motor used for pumping at the bulk plant (it's really a marine terminal but transport trucks are used now). When he rebuilds, he said he would be sure to include a "fireproof" motor.

Mr. Holloman also owns Jacksonville's only hotel and is planning to open up another in the little boom town. Also, he has another bulk plant at Smithfield which he is just completing. It's the "best-equipped plant in the county, but too far away to help us here," he said. He is considering building some new outlets in the defense boom area.

Construction of the Marine Barracks is expected to employ 10,000 men at the peak. Meanwhile, Camp Davis construction continues, only about 20 miles from Jacksonville. About the same number of miles on the other side of the town, there is a projected Marine Corps air base, to cost $25,000,000. So, all in all, Jacksonville is in for a boom.

Data on Defense Projects In Wilmington, N. C. Area

Most important to Wilmington of the defense projects in its territory is the construction of 9 ships ways. They are now being rushed night and day, 7 days a week, by a force of more than 1300 men; cost, $9,000,000. First keel of 37 ships to be built in the new yard is expected to be laid in June. These ships will cost $42,000,000, making the project total $51,000,000.

To house the shipyard workers, Farm Security Administration is experimenting with a "mobile housing" project. Over 300 trailers have been purchased by this government agency and are stored in a Wilmington park. Work is going ahead on a parking area where each trailer will have a 25 by

THE MARINES HAVE LANDED. Three days after construction contract was signed for New River Marine Barracks, the streets of nearby Jacksonville (left) were crowded with cars and job-seekers, button-holing anyone who'd talk to them. Riverview Hotel is run by an oil jobber. RIGHT, job-seekers see grading equipment in field, so they park their cars and hunt for the foreman

CHEVROLET'S
Extra Pulling Power is Extra Earning Power

Talk to the driver of a 1941 Chevrolet Heavy Duty truck. Ask him what its added power means in terms of added hauling efficiency. He will tell you that it means less time on the route . . . better speed on the hills . . . faster acceleration . . . positive starts under maximum load. That adds up to more trips per day, or more merchandise or material moved per trip.

Chevrolet's extra pulling power does mean extra earning power—because, with a Chevrolet, you now can do a given job at less expense, or do a bigger job at no additional cost.

CHEVROLET MOTOR DIVISION, *General Motors Sales Corporation*
DETROIT, MICHIGAN

Chevrolet's Standard engine gives full 90 horsepower and 174 foot-pounds of torque. Optional at but little greater cost is the Chevrolet "Load-Master" engine, with the extraordinary pulling power of its 192 foot-pounds of torque—the most powerful engine in the entire field of low-priced trucks.

•

TRUCKS WITH PASSENGER CAR STEERING EASE
BY
THE WORLD'S LEADING TRUCK BUILDER

•

60 MODELS—9 WHEELBASES

OUT-PULL • • • OUT-VALUE • • • OUT-SELL

Corpus Christi eliminates The Corpus delicti*

**Corpus delicti*—the basic legal proof that a crime was committed; as in a murder, the actual body of the victim.

Waste in shipping bulk liquids leaves its own "corpus delicti" in the form of inventory losses, contamination, excessive insurance, and other profit leaks. Southwestern shippers can eliminate these crimes against prosperity—by using General American's mammoth Corpus Christi Terminal. In service, in privacy, it's *your* plant, without investment on your part. Check the seven exclusive General American benefits. You'll appreciate why we've had to *treble* our Corpus Christi capacity since 1936!

ONLY GENERAL AMERICAN GIVES ALL THESE ADVANTAGES:

1. NO CONTAMINATION. Separate pumps, lines, storage zones for dissimilar commodities.
2. MODERN PROTECTION. Latest safety appliances; lowest insurance rates, minimum evaporation losses.
3. RELIABLE CUSTODIANSHIP. Our warehouse receipts are highest type of collateral everywhere.
4. INDEPENDENT OWNERSHIP. Strictest privacy; we do not buy, sell or refine any commodities.
5. NO WHARFAGE. There is no wharfage charge at our own private docks.
6. SPEED WITH SAFETY. Day and night crews, complete facilities, eliminate all shipping delays.
7. WORLD'S LARGEST TANK CAR FLEET. One car or hundreds, wherever and whenever needed.

Strategically located to serve you!

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

50 ft. lot, with streets and other facilities.

The shipyard will provide jobs for 5500 workers, nearly all highly skilled. They will have to be brought in from elsewhere. Jobs will last 2 years or longer.

There are nearly 1000 housing units being built by federal, state, local and private agencies. But it still isn't enough. Army officers assigned to Camp Davis (where there are no accommodations for them) are taking houses as far away as Carolina Beach, 20 miles below Wilmington and 50 miles from the Army post (they'll have to commute by automobile, but probably will "gang up" and take turns using their cars, so that their families can have transportation, too).

Camp Davis is a Coast Artillery post. Its 980 buildings will be completed by June 1, it is expected. Its command will include 900 officers and 20,000 men; all of the latter will be housed on the reservation. In the construction, every effort was made to use local labor—and most of the workers (25,000 was the peak employment) were North Carolinians but some came from 100 miles away, commuting every day. For example, Aycock Brown, local newspaper editor in North Carolina who served as the project's press agent, lived in Beaufort, N. C., some 75 miles away. He drives back and forth daily, about 4 days a week.

First units began to arrive at Camp Davis late in April. They are coming from Illinois, Michigan and other midwestern states. Army officials expect that the camp will be a mecca for tourists this summer as families and relatives motor down to visit their boys. Guest accommodations at camp hostess houses will be provided for 32 guests. So, Wilmington and the beach resorts will get this tourist trade.

Camp Davis military payroll will run about $1,000,000 a month, with pay days staggered over a 10-day period.

Army public relation officials said they had no information as to a Post Exchange service station at Camp Davis, but they presumed that the "PX" (as they call it) would have a station. And they are probably correct because local oil marketers say "the Post Exchange is shopping around for a Santa Claus to build them a station and supply them with gasoline—cheap."

A NEW 1500-GAL. TANK TRUCK and a pick-up truck will be added to Fountain Oil Co.'s equipment soon, which now consists of 3 tank trucks—shown here—and a stake-body truck

Right from the Horse's Mouth
A HOT TIP ON HOT-WEATHER DRIVING
Now that days are getting warmer, every car owner ought to read and heed the reasons why Phillips 66 Poly Gas has achieved such a reputation for producing improved performance . . . in hot summer weather . . . as well as in winter cold.
This modern motor fuel is not only high anti-knock, high test, high energy . . . but it is more accurately matched to monthly changes in your weather!
For May, and for every month in the year, this self-demonstrating gasoline is custom-tailored, definitely engineered to match the climatic conditions your car will encounter in your vicinity.
The result is a great motor fuel which is unsurpassed at its price. Phillips 66 Poly Gas delivers more pep and power. Gives flashier pick-up and easier hill-climbing. And mileage that is a revelation to motorists trying a first tankful. Yet it costs nothing extra . . . at the Orange and Black 66 Shield.
NEW Higher Anti-knock
Phillips 66
Phill-up with Phillips for Greater Mileage

Typical of PHILLIPS PETROLEUM CO. advertising to build car-owner acceptance of the NEW Phillips 66 Poly Gas is this striking ad now appearing in large space in newspapers throughout the Phillips marketing area.

Change to Cast Iron or Steel Pistons Viewed in Light of Lubrication Needs

● A change from aluminum to cast iron pistons in engines of some automobiles, a possible consequence of the diversion of aluminum to defense uses, would not affect lubrication and motor oil requirements, it is believed by several automotive engineers here.

However, more frequent changes of crankcase oil might be required unless engines were completely redesigned to fully compensate for differences in weight of aluminum and cast iron which affect the loading of crankshaft bearings and temperatures in the cylinder, it was said.

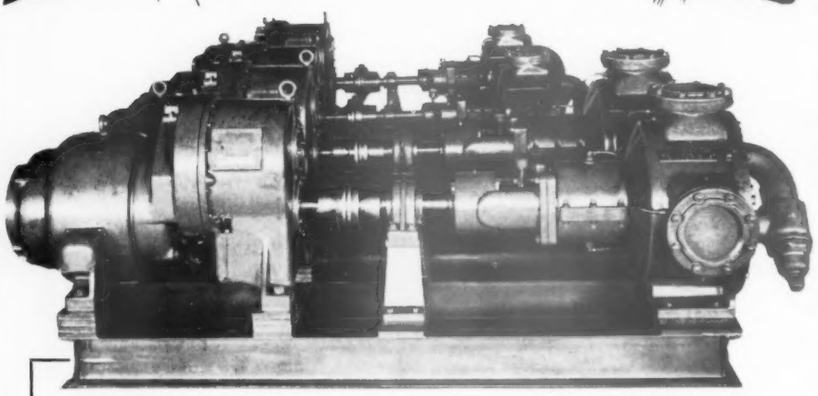
While half the cars sold today, 2 made by General Motors and 3 by Ford, have cast iron and cast steel pistons, respectively, their engines were originally designed to provide for efficient use of these materials.

Meanwhile, every effort is being made to obtain an uninterrupted supply of aluminum, since there is plenty of raw material, and vastly increased production waits merely on completion of plants to produce it. Engineers feel, therefore, that any acute shortage of aluminum in the automotive industry will be of short duration. Same is said to be true with magnesium, which is alloyed with aluminum.

Advantages sought by car manufacturers using aluminum pistons, include the higher thermal conductivity of that metal and its low specific gravity which reduces bearing inertia loading at high speed.

If manufacturers of aluminum-piston engines are forced to change to cast iron and cast steel, they hold that time and cost of redesigning their engines are factors which must be considered. An additional factor will be use of secondary aluminum in the pistons, since virgin aluminum is in greatest demand for defense purposes.

ALL SET TO SET RECORDS



SPECIFICATIONS

Two front pumps are 1050 GPM at 150 RPM.

Two back pumps are 750 GPM at 200 RPM.

All pumps are directly connected by flexible couplings to gear head motors.

All pumps are equipped with Viking relief valve on head and water cooled rotor bearing sleeves with integral thrust bearings attached.

Each unit is mounted on a rugged, reinforced structural steel base.

● Look 'em over . . . 4 Viking Tanker and Barge Unloading Pumps . . . they're all set to leave the Viking Factory. In a short time they'll be installed in an eastern marine terminal . . . then things will really begin to happen. Unloading hours will be cut down, tanks will be stripped cleaner in less time, repair and replacement costs will be reduced, light and heavy liquids will be handled with like speed and efficiency. If you're in need of the same type of pumping equipment, write for Bulletin 2500-40 . . . it gives full data on Viking Pumps for the handling of petroleum products.

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

Pump Replacement Rate Down in Last 8 Years

Survey conducted by Gasoline Pump Manufacturers Assn. shows that replacement rate of gasoline pumps has been running at less than half of obsolescence rate, G. Denny Moore, managing director of the G.P.M.A., stated in a speech before the 6th annual conference of the Texas Weights and Measures Assn. in Dallas, Tex., May 1.

Mr. Moore estimated that 1,000,000 pumps became obsolete in the 8 years from 1933 through 1940, but that industry sales records show only 525,000 "strictly modern" pumps were sold in that period. Of these, about 100,000 went into stations not in existence in 1933, leaving only 425,000 as actual replacements, Mr. Moore said. By "strictly modern" pumps, Mr. Moore said he meant the computer type.

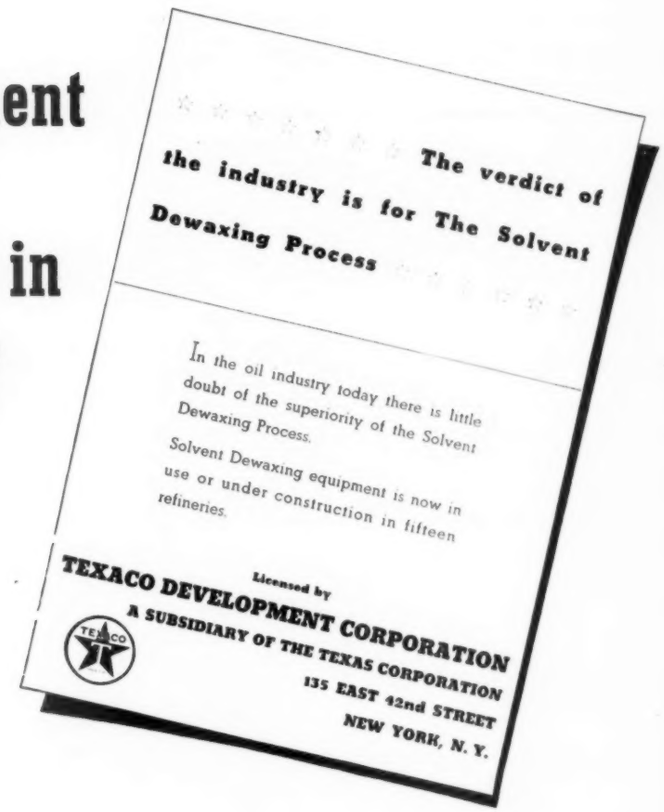
The G.P.M.A. survey also shows that larger cities of the U. S., comprising 50% of the national population, have one-third of the gasoline pumps in the nation, of which 70% are modern. Other two-thirds are located in small towns, villages and backroad districts, but only 20% of these are modern. Mr. Moore said.

Pointing out that motorists drive in both city and country and that they expect the same service wherever they stop for refueling, Mr. Moore stated that pump manufacturers should give more attention to developing markets in back-country districts and do more "educational work to elevate the standards of pumping equipment in those territories."

A.P.I.'s Picture Salon Planned For November Meeting

Photographic Society of America will hold a second Petroleum Industry Photographic Salon (Pictorial) in connection with the 22nd annual meeting of American Petroleum Institute Nov. 3 to 7, 1941, at San Francisco. F. Quellmalz, Jr., will be salon director with headquarteds at Room 2040, 50 West 50th St., New York City.

This advertisement was published in 1937


The verdict of the industry is for The Solvent Dewaxing Process
In the oil industry today there is little doubt of the superiority of the Solvent Dewaxing Process.
Solvent Dewaxing equipment is now in use or under construction in fifteen refineries.
Licensed by
TEXACO DEVELOPMENT CORPORATION
A SUBSIDIARY OF THE TEXAS CORPORATION
135 EAST 42nd STREET
NEW YORK, N. Y.

...look what's happened since:

IN 1937 *fifteen* Solvent Dewaxing (MEK-Benzol) plants had been licensed . . . today there are 27.

Today more than ever before the Solvent Dewaxing Process is the accepted standard of the industry.

TEXACO DEVELOPMENT CORPORATION

A Subsidiary of The Texas Corporation

26 Journal Square • Jersey City, N. J.

MERCHANDISING

This is a readers' forum on merchandising of petroleum products, automotive accessories and allied lines. Let us have your ideas on how to improve selling at stations. Address: Merchandising Editor, NATIONAL PETROLEUM NEWS.

● In the April 23rd issue of NPN, page 28, results were given on a survey made in 41 states among 400 independent oil marketers on competion in lube oil business.

This survey concerned price-cutting and brought out the fact that 86% of marketers reporting told of greater competition in lube oil selling as evidenced by price-cutting and price-selling.

A compilation of all the replies coming from these marketers in every part of the country indicates they are meeting the situation with more aggressive selling.

We asked these marketers what they considered necessary in order to get satisfactory lube sales results at service stations. Nearly 3 out of 4 said they have to call on stations ONCE A WEEK or MORE OFTEN to get the best lube sales results.

Here is a tabulation of the total replies to this question:

11.9% said they have to call DAILY
1.6% said they have to call Every Other Day
1.3% said they have to call CONTINUOUSLY
13.5% said they have to call Twice a Week
46.1% said they have to call Every Week
23.2% said they have to call Every Other Week
2.4% said they call once a month

A composite picture of the 400 representative marketers covered in NPN's survey shows slightly less than 10% sell 5 or more different companies' brands of oil. As a matter of fact, 34.3% reported selling only 1 company's brand; 31% reported selling 2 companies' brands; 16.1%, 3 companies' brands; and 8.7%, 4 companies' brands. Two-thirds of them buy motor oils from more than one source.

Most independent oil marketers are consistently selling their dealers on a program of recommending to their customers "1000-mile drain in summer and 500-miles in winter". In fact, 89.3% of those reporting followed this practice. And that it is worthwhile is indicated in statement of 74.7% of these marketers that car owners accept this recommendation.

Some marketers sell lube oil in bulk only; some in cans only. But the largest percentage said that they sell oil in both cans and in bulk.

2.23% of those reporting sell oil in bulk only.
7.14% sell oil in cans only.
90.63% sell in both cans and bulk.
24% of those reporting said bulk oil sales are increasing more rapidly than canned oil sales.
36% said they would rather sell bulk oil.
13% said that the public prefers bulk oil.

But by far the largest percentage of those reporting give canned oil the preference over bulk oil.

76% said that canned oil sales are increasing more rapidly than bulk oil sales.
64% said they would rather sell canned oil.
87% said the public prefers canned oil.

Oil Compounding

That oil compounding is still an important activity of some independent marketers is shown by the report that 13% of the marketers in NPN's survey compound their own lubricating oils for resale.

* * *

Badge of Service

The Brewer Oil Co., LaGrange, Illinois, gives its stations a touch of the military with the "Brewer Shield" worn on station operators' caps. Each star on this shield stands for five years of service, and each chevron represents another year.

In that company's advertising, the

ONE GOOD WAY to SAVE MONEY!

Specify BLACKMER • ROTARY • PUMPS

BLACKMER PUMPS BUCKET DESIGN AUTOMATIC TAKE-UP FOR WEAR

THE PUMP THAT IS SELF-ADJUSTING FOR WEAR
FAMOUS "BUCKET" DESIGN

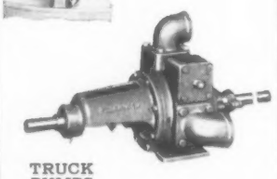
No other pump made offers this great economy feature. For more than 30 years Blackmer Rotaries have been "standard equipment" in the petroleum industry. Let us SHOW YOU WHY Blackmer Pumps handle MORE GALLONS PER PENNY.

Write for bulletins.

BLACKMER PUMP COMPANY

1885 Century Avenue, S.W., Grand Rapids, Michigan

HAND PUMPS
54 models.



TRUCK PUMPS
All sizes.

TRANSFER PUMPS
5 to 700 GPM
Single or multiple units.

YOUR BEST CUSTOMERS WILL TELL YOU!...

Maybe your Ethyl customers don't know as well as you do *why* your best gasoline is their best buy. But they do know, from their own experience on the road, the higher anti-knock and all-round quality of Ethyl means a cooler-running engine in summer, a quicker-starting engine in winter and extra power the whole year through. That's why you'll often hear an Ethyl user say:

Because modern high compression engines give their *best* performance with high anti-knock gasoline, it's no wonder so many people are turning to Ethyl. As a matter of fact, many car dealers and service men are making a point of explaining to their customers that Ethyl permits setting the ignition timing for *more power* without "knock" or "ping"—advising them to buy *your* best gasoline! Ethyl Gasoline Corporation, Chrysler Building, New York City.

SELL FROM THE PUMP WITH THE ETHYL EMBLEM—

Take the "Governors" Off Your Trucks!

The wrong kind of hose can slow down your trucks—they can't possibly make the number of deliveries per day they *should*, if the hose you are using keeps them too long at each station.

Speed-up Deliveries WITH GOODALL *"NEWTYPE CORD"*

(U.S. PAT. NO. 194810)

TANK TRUCK HOSE

"NEWTYPE CORD" is the full-flow, non-kinking Tank Truck Hose that insures *faster* deliveries, *more* deliveries and *fewer replacements*. The "Synplastic Tube" (no rubber) will not swell, soften or disintegrate, and retains its inside diameter indefinitely. *Better order Goodall "Newtype Cord" Tank Truck Hose now, and get set for better sales and profits this summer!*

Specify Style R-23. Write for illustrated folder.

GOODALL RUBBER CO., Inc.
4 SOUTH 36TH ST., PHILADELPHIA, PA.
MILLS: TRENTON, N. J. EST. 1873
Branches and Distributors from Coast to Coast

ROPER GAS ENGINE TRUCK PUMPS

HYDRAULICALLY BALANCED

Only ROPER HAS ALL THESE FEATURES

- ELECTRIC STARTER—a push button replaces crank or rope.
- HYDRAULICALLY BALANCED PUMP operates quieter, smoother and longer because internal pressure is equalized at all points.
- BRONZE BEARINGS are flanged and act as wear plates.
- AIR COOLED ENGINE can be operated in any weather—no water to freeze or boil.
- FLEXIBLE COUPLING makes unit quieter and safer.
- RELIEF VALVE built into pump is protection against excessive pressures.
- FOUR PORTS in pump permit eight different piping combinations.
- ALWAYS PRIMED and SELF LUBRICATING.

What Users Say . . .

"ROPERS CUT OUR PUMPING COSTS 85%"

"WE PUMPED 8000 GALLONS FOR 20 CENTS"

"OPERATING COSTS ARE LOWEST IN OUR HISTORY"

Write for your copy of "Longer Life For Your Tank Trucks."

GEO. D. ROPER CORP., ROCKFORD, ILL.

public is invited to avail itself of the services of these "veterans".

Must be the Climate

Out in California they are always thinking up something new. Take Max Rosenthal of San Jose, for instance.

That smiling Associated Oil Co. dealer uses a stethoscope in tracing troublesome squeaks. Makes a decided hit with the customers.

* * *

Why Sales Managers Turn Gray

The engineer in charge of construction of one of the major oil companies tells us about an inspection trip he and the sales manager recently made. One of the "pride and joys" to be inspected was a new $15,000 station in a small city. Imagine the embarrassment when these gentlemen found a couple of mules hitched to one of the latest model computers; the operator happily assemblying a combine on the driveway.

Three guesses as to what he said. You're wrong. It was worse than that.

* * *

Proper Accounting Reduces Turnover

William P. Marquam, manager of sales promotion of the Pure Oil Co., believes that good accounting will cut down dealer turnover by preventing dealers from losing control of their business.

It a dealer knows he is losing money, with proper accounting, he can see where he is losing it and correct his mistakes. Conversely, if a dealer is making money but does not keep a record of the amounts he spends, he may not realize that he is making a good profit; consequently, he may think he can do better elsewhere—perhaps on a defense job. Often a dealer after installation of proper records, can see where there is ample opportunity for profit. In many cases more profit than can be made in the station if operations are properly directed.

On the basis of these and other facts developed in connection with proper accounting, Pure is "selling" the idea of keeping adequate records, and using it as the key for 1941 sales promotion objectives.

* * *

To Swap

No Yankee is really happy unless he is swapping something. So one of our Boston marketing friends would like to trade his method of removing oil stains from tan shoes for "what have you?" His formula is:

Cover the spot with ordinary rubber cement; allow to dry; rub off. Sometimes 2 or 3 applications are necessary, but it is said to do the trick.

Annual Reports

Gulf Oil Corp.

Consolidated net income of Gulf Oil Corp. excluding earnings of European subsidiaries, was $22,150,277 in 1940, equivalent to $2.44 per share of capital stock outstanding. In 1939, when earnings of European subsidiaries were consolidated, Gulf's net income was $15,315,781, or $1.69 per share.

In discussing company's 1940 sales, annual report to stockholders said: "Substantial progress was made in improving the appearance and facilities of retail outlets, and an impressive number of new service stations of the higher type was acquired through lease and purchase, thereby improving materially the company's competitive position." Report stated that "great care" was taken in the acquisition of new business, "and each prospective account was carefully analyzed for its profit possibilities."

Gulf's capital expenditures in 1940 totaled $57,426,564, of which $9,207,607 was spent for additions and improvements to domestic marketing facilities, particularly service stations and dispensing equipment.

* * *

Shell Oil Co.

A $3,848,965.68 increase in net income from operations of the Shell Oil Co., Inc. was reported for 1940, bringing total income to $15,654,678.26 after deductions for depreciation, depletion, amortization, interest and provision for federal income taxes.

"The oil industry," the annual report pointed out, "will be called upon to play a further important part in the nation's preparedness program. Oil products are vital not only in military and naval operations but also in industrial expansion. With ample facilities in all of its major departments, the oil industry is in the excellent position of being able to cope adequately with any demands which may be anticipated for its many products."

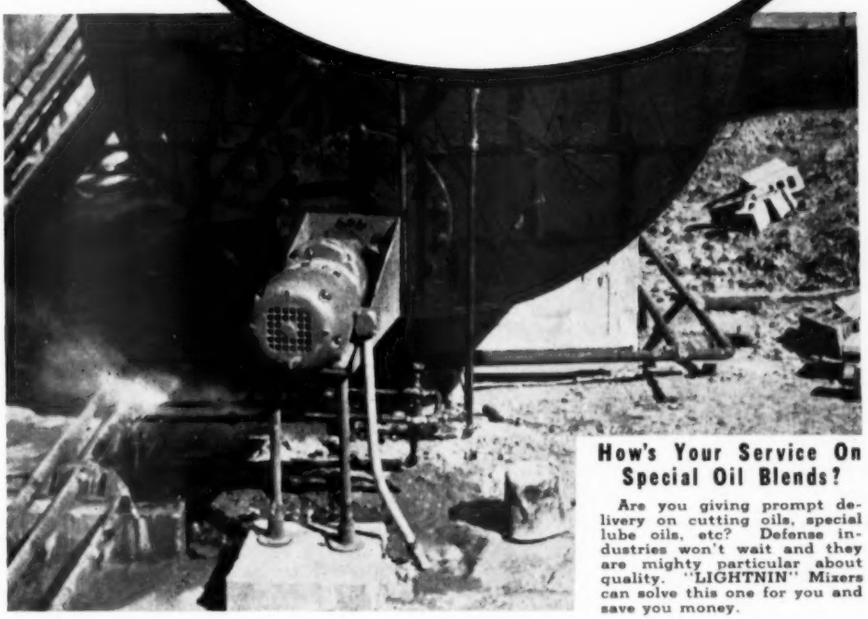
* * *

Amerada Corp.

Net profit of Amerada Corp. for 1940, after deducting all charges, was $1,775,733.98, or $2.25 per share on 788,675 shares outstanding, comparing with a net profit of $1,230,764.14, or $1.56 per share, in 1939.

Amerada Corp. produced 29,603 bbls. of crude oil daily in 1940, comparing with 23,963 bbls. in 1939. Average selling price per bbl. in 1940 was listed in company's report to stockholders as $1.01, as against $0.99 in 1939. Company completed 131 oil wells, 2 gas wells and 12 dry holes in 1940.

THIS ECONOMICAL WAY TO MIX SMALL LOTS OF HEAVY OILS POINTS A MONEY-SAVING MORAL



How's Your Service On Special Oil Blends?

Are you giving prompt delivery on cutting oils, special lube oils, etc? Defense industries won't wait and they are mighty particular about quality. "LIGHTNIN" Mixers can solve this one for you and save you money.

THE problem presented us recently by a Maryland plant was not an easy one. It involved the hot blending of heavy oils (1500 SSU) in an insulated cylindrical horizontal tank. Every other method that had been tried had failed, and if we were unable to produce results, valuable equipment would have to be discarded.

We recommended two 2 H. P. Mixers—one at either end. The results exceeded expectations. Not only was the resulting blend very superior, but the power costs were much lower than had been expected.

The moral is—no matter what your mixing problem—whether oil in small quantities or gasoline in million gallon lots. with "LIGHTNIN" Mixers you get the same speed and economies that refineries have enjoyed for twenty years. Chances are we've already solved the mixing or blending problem that's bothering you. If not, then there's an unequalled fund of specialized mixing knowledge at your service without obligation to you.

MIXING EQUIPMENT CO., Inc.

1033 GARSON AVE. **ROCHESTER, N. Y.**

Season's Heating Oil Requirements Are Below Normal

OIL burner requirements for the current heating season (September-May) will likely be less than normal for the country's entire winter belt, except parts of New England and eastern New York state.

In many large cities outside of this section, consumption per individual burner will be less than that of the preceding winter by 10 to 15%, if warm weather continues through May.

April burner requirements, based on outside temperature deficiencies as reported in NPN's Degree-Day service, were way under normal and under April, 1940, at all points except Denver.

Of the large eastern markets, burner consumption in Boston in April was 27% less than normal and only two-thirds that of April, 1940. New York City requirements were 38% below normal and one-half of April the year before. Philadelphia reported 39% below normal and 53% below April, 1940. Baltimore and Washington were 40% under normal and 52% under the preceding April.

In the Mid-West, Cleveland, Chicago Detroit and St. Louis reported burner consumption from 27 to 37% less than normal and from 35 to 47% less than in April, 1940. Pacific Coast requirements were also under normal and under April, 1940.

FOR the current heating season through April, most points in New England and the East are a little above normal, but below requirements for the preceding heating season. Most middle Atlantic coast cities are 9 to 10% under requirements for the 1939-40 heating season. In the north central states, practically all cities reporting show consumption per burner below normal by 4 to 6%, and under consumption for the preceding year by around 7 to 10%. Denver is the only city noted where consumption is over that of the year before, and here only by 3%.

Only the following few points, to May 1, have exceeded the entire normal burner requirements for the season: Portland, Me.; Burlington, Vt.; Hartford, Conn.; Albany, N. Y.; Rochester, N. Y.; Richmond, Va.

Pacific Coast cities, to May 1, used from 18 to 22% less oil than in a normal season and slightly less than the preceding season.

Table 1—April Heating Oil Requirements, in Degree Days

	April Normal DDs	Actual April 1941 DDs	% Above or Below Normal Needs	Actual April 1940 DDs	% Above or Below April 1940	% Normal Season's Needs Used in April 1941	% Normal Season's Needs Used in Normal April	Total DDs in Normal Season
NEW ENGLAND								
Portland, Me.	642	558	—13	740	—25	8	9.2	6973
Burlington, Vt.	651	517	—21	773	—33	6.9	8.7	7486
Boston	558	409	—27	642	—36	6.7	9.2	6058
Providence, R. I.	540	376	—30	617	—39	6.6	9.5	5689
Hartford, Conn.	526	378	—28	638	—41	6.3	8.7	6019
MIDDLE ATLANTIC								
New York City	468	291	—38	571	—49	5.5	8.8	5290
Albany	553	408	—26	698	—42	6.3	8.5	6516
Rochester	600	468	—22	676	—31	7.0	9.1	6620
Buffalo	666	501	—25	744	—33	7.5	9.9	6723
Trenton, N. J.	457	274	—40	554	—51	5.3	8.8	5190
Philadelphia	386	236	—39	501	—53	4.9	8.1	4792
SOUTH ATLANTIC								
Baltimore	356	213	—40	442	—52	4.6	7.7	4628
Washington	352	204	—42	426	—52	4.4	7.6	4620
Richmond	251	192	—31	343	—44	5.0	6.6	3820
NORTH CENTRAL								
Cleveland	564	413	—27	657	—37	6.7	9.2	6144
Chicago	545	396	—27	614	—35	6.2	8.5	6378
Detroit	566	393	—31	662	—41	6.1	8.8	6454
Milwaukee	639	476	—25	707	—33	6.7	8.9	7117
Minneapolis	577	378	—35	639	—41	4.8	7.3	7895
St. Louis	298	186	—37	349	—47	4.0	6.4	4658
Des Moines, Ia.	455	301	—34	506	—41	4.8	7.2	6329
Omaha	415	303	—27	473	—36	4.9	6.7	6229
Kansas City	329	207	—37	362	—43	4.1	6.4	5104
Denver	528	535	+ 1	513	+ 4	9.2	9.1	5790
PACIFIC COAST								
Seattle, Wash.	405	296	—27	417	—29	6.9	9.4	4306
Portland, Ore.	394	256	—35	295	—13	5.9	9.0	4367
San Francisco	238	277	—16	221	—25	11.2	10.0	2382

Table 2—Season's Heating Oil Requirements to May 1, 1941

	Sept.-Apr. Normal DDs	Actual Sept.-Apr. 1941 DDs	% Above or Below Normal	Actual Sept.-Apr. 1940 DDs	% Above or Below Sept.-Apr. 1940	% Normal Season's Needs Used in Sept.-Apr. 1941	% Normal Season's Needs Used in Sept.-Apr. 1940	% Normal Season's Needs Used in Normal Sept.-Apr.
NEW ENGLAND								
Portland, Me.	6644	7130	+ 7	6927	+ 3	102.3	99.3	95.3
Burlington, Vt.	7223	7661	+ 6	8114	— 6	102.3	109.3	96.5
Boston	5813	5792	0	6111	— 5	95.6	100.9	95.9
Providence, R. I.	5478	5640	+ 3	6080	— 7	99.1	106.9	96.3
Hartford, Conn.	5801	6121	+ 6	6433	— 5	101.7	106.8	96.4
MIDDLE ATLANTIC								
New York City	5151	5076	— 1	5531	— 8	96.0	104.5	97.4
Albany	6287	6871	+ 9	7414	— 7	105.4	113.7	96.5
Rochester	6372	6727	+ 6	6832	— 2	101.6	103.2	96.4
Buffalo	6399	6520	+ 2	6906	— 6	96.9	102.7	95.2
Trenton, N. J.	5070	5188	+ 2	5618	— 8	99.9	108.2	97.7
Philadelphia	4715	4761	+ 1	5175	— 8	99.4	107.9	98.4
SOUTH ATLANTIC								
Baltimore	4527	4318	— 5	4741	— 9	93.3	102.4	97.8
Washington	4515	4343	— 4	4853	—10	94.0	105.0	97.7
Richmond	3805	3990	+ 5	4379	— 9	104.4	114.6	99.6
NORTH CENTRAL								
Cleveland	5923	5693	— 4	6158	— 8	92.6	100.2	96.4
Chicago	6098	5783	— 5	6187	— 7	90.7	97.0	95.6
Detroit	6237	6139	— 2	6606	— 7	95.1	102.3	96.6
Milwaukee	6770	6376	— 6	6618	— 4	89.6	92.9	95.1
Minneapolis	7637	7311	— 4	7710	— 5	92.6	97.6	96.7
St. Louis	4564	4290	— 6	4980	—14	92.1	106.9	97.9
Des Moines, Ia.	6159	5774	— 6	6404	—10	91.2	101.0	97.3
Omaha	6072	5655	— 7	6340	—11	90.8	101.8	97.5
Kansas City	4994	4630	— 7	5269	—12	90.7	103.2	97.8
Denver	5525	5219	— 6	5084	+ 3	90.1	87.8	95.4
PACIFIC COAST								
Seattle, Wash.	4060	3204	—21	3412	— 6	74.4	79.2	94.3
Portland, Ore.	4114	3194	—22	3283	— 3	73.1	75.2	94.2
San Francisco	2163	1776	—18	1793	— 1	74.6	75.3	90.8

MARKETS

Mid-Continent

TULSA, May 10.—Low prices reported for bright stock and neutrals were up 0.5 to 1c in the Mid-Continent, according to reports of refiners the past week. Active inquiry and heavy shipments were reported.

Quotations reported by refiners for 150-160 vis. D bright ranged from 15.50 to 16c for 0-10 pour, 15 to 15.50c for 10-25 pour and for 120 vis. D, 14.50 to 15c for 0-10 pour. For No. 3 color 0-10 pour viscous neutrals, refiners' quotations ranged from 9 to 10.25c for 150 vis., 9.50 to 10.50c for 180 vis., 9.50 to 11c for 200 vis., 11 to 12c for 250 vis., 11.50 to 13.75c for 280 vis. and 12.50 to 14.25c for 300 vis.

Wax demand continued heavy, according to reports. Price for 124-126 A.m.p. white crude scale was 0.375c higher by end of the week with sales of undisclosed quantities reported by one refiner at 3.375c, 3.50c, 3.625c and today at 3.75c.

Gasoline demand continued heavy, it was said. Small lots were reported sold inter-refinery, based on "market price date of shipment, less brokerage." A Kansas refiner said he was supplying 72-74 oct. to another refiner at rate of 2 cars per day "as long as I can supply it." Several refiners said they were unable to produce at capacity because they were unable to secure the additional crude.

Mid-Western

CHICAGO, May 10.—Supplies of gasoline were reported "very scarce" throughout the past week by refiners and tank car marketers in Chicago. Shipments continued heavy against contracts, it was said. Demand for light distillates and fuels was reported good. Several refiners said buyers were storing these oils in anticipation of higher prices. Quotations for the most part were reported unchanged.

Open spot sales reported by 3 tank car marketers during the week were: 1 car of 80-82 oct. Ethyl gasoline at 5.25c; 9 cars of 72-74 oct., 3 cars at 4.625c and 6 cars at 4.75c; 10 cars of 63-66 oct., 9 cars at 4.375c and 1 car at 4.50c; 1 car of 60 oct. & below at 4.25c; 3 cars of range oil, 1 car at 3.50c, 1 car at 3.625c and 1 car at 3.75c; and 5 cars of No. 3 fuel at 2.875c, all FOB Group 3.

Group 3 quotations reported by refiners ranged from 5.125 to 5.375c for 72-74 oct., 4.75 to 5c for 63-66 oct., 4.375 to 4.625c for 60 oct. & below, 3.25 to 3.375c for No. 3 fuel, one refiner reported quoting 3.875c for range oil and another refiner reported quoting 6.125c for 80-82 oct. Ethyl.

Group 3 quotations reported by tank car marketers ranged from 5.25 to 5.50c for 80-82 oct., 4.75 to 5c for 72-74 oct., 4.375 to 4.50c for 63-66 oct., 4 to 4.25c for 60 oct. & below, 3.50 to 3.75c for range oil, and 2.625 to 3.375c for No. 3 fuel.

California

LOS ANGELES, May 10.—Advances of 0.125c per gal. were reported the past week in quotations for cargoes of 400 e.p. blend, 65 octane, and 390 e.p. blend, 66 octane, bringing the range of these blends, respectively, to 5.25 to 5.375c and 5.625 to 5.75c. Quotations for other blends were reported "firm" at previous figures.

Prospect that the present shortage of tankers available for charter will become more acute through expanding defense requirements was said to be a factor in the upward trend of export prices.

Independent refiners in the Los Angeles Basin generally advanced their rack prices for third grade gasoline 0.5c per gal., to a range of 5.5 to 5.75c, according to reports.

Decreases of 5 to 10c per bbl. were reported in quotations on diesel oil and kerosine distillate at independent plants in the Basin area, where the range was said to be $1.05 to $1.10 per bbl.

Because of the demands of existing contracts, no independent refiners in the San Joaquin Valley were offering fuel oil for less than $0.75 per bbl., according to reports here.

Gulf

NEW YORK, May 10.—Refined products prices generally were reported unchanged at the Gulf the first week in May. Several inquiries were in the market, with buyers said to be "needing material and ready to pay a price." Scarcity of tankers continued to act as a damper on trading, it was said.

A cargo sale of 50,000 bbls. of No. 2 fuel oil at 3.25c was reported late in the week for prompt lifting, coastwise, and two barge-lot sales of No. 2 totaling 16,000 bbls. were reported at the same price for shipment up the Mississippi. Some suppliers said they were asking 3.50c for No. 2.

An export inquiry for a mixed cargo of 45-50,000 bbls. of aviation gasoline and 40,000 bbls. of 48 diesel index gas oil for May-June lifting was in the market, according to reports, and domestic inquiries totaling approximately 200,000 bbls. of various grades of gasoline also were said to be in the market.

Pennsylvania

CLEVELAND, May 10.—"Frantic bidding" for neutral oils, with prices up 1 to 5c per gal. highlighted the western Penna. market the past week, according to reports from the field. Quotations reported by refiners for bright stock also were up 1c, was 0.25c per lb., and gasoline 0.25c per gal. in the lower field.

"We're hopelessly swamped with orders for neutrals and buyers are bidding frantically for supplies," one refiner commented, and his remarks were typical of reports from other refiners. Quotations reported by refiners for 25 pour test neutrals ranged from 26 to 30c for 200 vis., 24 to 28c for 150 vis., up 1c on the lows and 5c on the highs. A resale agent was said to have paid 30c for 2 cars of 200 vis. oil, and inter-refinery sales were made at 28c and 28.50c, according to reports.

Low quotations reported for 25 pour bright stock were at 18c, up 1c. British pool was expected in market shortly for 100,000 bbls. of bright stock.

"We're having no trouble getting 6.50c for 74-76 oct. gasoline," a lower field refiner said, adding that he had also sold Min. 80 oct. at 6.75c and had subsequently advanced his quotation to 7c. Quotations reported by other lower field refiners for 74-76 oct. were at 6.25c, up 0.25c.

Atlantic Coast

NEW YORK, May 10. — Light fuel oils and diesel oil for bunkering were priced higher at most points along the Atlantic Coast, according to reports of suppliers the past week. Gasoline also was quoted higher at some points. Trade reports indicated supplies of all products were closely held by sellers.

At New York harbor, Nos. 2 and 3 fuel oils were up 0.2c per gal. at 4.90c tank cars, 4.80c barges, with diesel oil, ships' bunkers up 5c to $2.00 per bbl. Advances reported at other seaboard points ranged from 0.1 to 0.5c per gal. on the light fuels, and 5 to 10c per bbl. on diesel oil.

All grades of gasoline were up 0.5 to 0.625c in the Philadelphia district, with low quotations reported by suppliers for Min. 80 oct. ('39 Research) at 7.50c; 72-74 and 68-70 oct. grades at 7c. Prices were 0.125 to 0.5c higher at other central and southern points.

Supplies of some products were said to be "scarce" at some points. A Baltimore supplier said he was "limiting" his sales in that area, and that he had withdrawn from the market at other points where he is usually a supplier.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (May 6 to May 12)

	Latest Prices Monday May 12	Friday, May 9	Thursday, May 8	Wednesday, May 7	Tuesday, May 6
U. S. Motor, (ASTM octane)					
80-82 octane Ethyl:					
Oklahoma	5.625– 6.25	5.625– 6.25	5.625– 6.25	5.625– 6.25	5.625– 6.25
Mid-Western (Group 3 basis)	6.125 (1)	6.125 (1)	6.125 (1)	6.125 (1)	6.125 (1)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.125(2)	6.125 (2)	6.125 (2)	6.125 (2)	6.125 (2)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.25(1)	6.25 (1)	6.25 (1)	6.25 (1)	6.25 (1)
72-74 octane:					
Oklahoma	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375
Mid-Western (Group 3 basis)	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375	5.125– 5.375
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.125– 5.75	5.125– 5.75	5.125– 5.75	5.125– 5.75	5.125– 5.75
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
63-66 octane:					
Oklahoma	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Mid-Western (Group 3 basis)	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.625– 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
60 octane & below:					
Oklahoma	4.375– 4.625	4.375– 4.625	4.375– 4.625	4.375– 4.625	4.375– 4.625
Mid-Western (Group 3 basis)	4.375– 4.625	4.375– 4.625	4.375– 4.625	4.375– 4.625	4.375– 4.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.375– 4.875	4.375– 4.875	4.375– 4.875	4.375– 4.875	4.375– 4.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
New York harbor, barges	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25
Philadelphia district	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Baltimore district	7.00–7.50(2)	7.00–7.50(2)	7.00–7.50 (2)	7.00–7.50 (2)	7.00–7.50 (2)
Motor Gasoline:					
74-76 Octane: (L-3)					
Bradford-Warren (Western Penna.)	6.50(2)	6.50 (2)	6.50 (2)	6.50 (2)	6.50(2)
Other Districts (Western Penna.)	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	May 12	May 5
OKLAHOMA		
80-82 oct. Ethyl	5.625– 6.25	5.625– 6.25
72-74 oct.	5.125– 5.375	5.125– 5.375
63-66 oct.	4.75 – 5.00	4.75 – 5.00
60 oct. & below	4.375– 4.625	4.375– 4.625
60-62 400 e.p.	4.375–4.50 (2)	4.375 (2)
MID-WESTERN (Group 3 basis)		
80-82 oct. Ethyl	6.125 (1)	6.125(1)
72-74 oct.	5.125– 5.375	5.125– 5.375
63-66 oct.	4.75 – 5.00	4.75 – 5.00
60 oct. & below	4.375– 4.625	4.375– 4.625
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	6.125(2)	6.125 (2)
72-74 oct.	5.125– 5.75	5.00 – 5.75
63-66 oct.	4.625– 5.25	4.625– 5.25
60 oct. & below	4.375– 4.875	4.25 – 4.875
60-62, 400 e.p.	4.50–4.875 (1)	4.50–4.875 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	6.25 (1)	6.25 (1)
72-74 oct.	5.125– 5.25	5.125– 5.25
63-66 oct.	4.75 – 4.875	4.75 – 4.875
60 oct. & below	4.375– 4.50	4.375– 4.50
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.125 (1)	6.125 (1)
72-74 oct.	5.125 (1)	5.125 (1)
67-69 oct.	4.625 (1)	4.625 (1)
62 oct. & below	4.25 (1)	4.25 (1)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	4.625–4.875 (2)	4.625–4.875(2)
60-62, 400 e.p.	5.00 (1)	5.00 (1)

Prices Effective	May 12	May 5
KANSAS (For Kansas destinations only)		
80-82 oct. Ethyl	6.375 (1)	6.375 (1)
72-74 oct.	5.375	5.375
63-66 oct.	5.00	5.00
60 oct. & below	4.50 – 4.625	4.50 – 4.625
ARK. (For shipment to Ark. & La.)		
72-74 oct.	5.125 (1)	5.125 (1)
70-72 oct.	5.00 (1)	5.00 (1)
60 oct. & below	4.625 (1)	4.625 (1)
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
74-76 oct. (L-3)	6.50 (2)	6.50 (2)
Other districts:		
74-76 oct. (L-3)	6.25 – 6.50	6.00 – 6.25
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. L-3):		
72-74 oct.	7.50	7.50
67-69 oct.	6.75 – 7.00	6.75 – 7.00
Str. run gasoline, excluding Detroit shpt.	5.50 – 5.75	5.50 – 5.75
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.625	7.625
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	6.00 – 6.75	5.50 – 6.50
54-58 grav., for outside state shipment	5.50 – 6.00	5.00 – 5.50
54-58 grav., for instate shipment	5.50 – 6.00	5.00 – 5.50

Kerosine, Gas & Fuel Oils

Prices Effective	May 12	May 5
OKLAHOMA		
41-43 grav. w.w.	4.25 – 4.50	4.25 – 4.50
42-44 grav., w.w.	4.375– 4.625	4.375– 4.625
Range Oil	3.875– 4.125	3.875– 4.125
No. 1 P.W.	3.75 – 4.125	3.75 – 4.125
No. 1 straw	3.375–3.75 (2)	3.375–3.75 (2)
No. 2 straw	3.375– 3.625	3.375– 3.625
No. 2 dark	3.25 (1)	3.25 (1)
U.G.I. gas oil	3.25 (2)	3.25 (1)
No. 3 fuel	3.25 – 3.375	3.25 – 3.375
No. 6 fuel	$0.70–$0.75(2)	$0.70 (2)
14-16 fuel	$0.85–$0.90 (2)	$0.85–$0.90 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.25 – 4.50	4.25 – 4.50
42-44 grav. w.w.	4.375– 4.625	4.375– 4.625
Range Oil	3.875 (1)	3.875 (1)
No. 1 p.w.	3.75 – 4.00	3.75 – 4.00
No. 2 straw	3.375– 3.50	3.375– 3.50
No. 3	3.25 – 3.375	3.25 – 3.375
No. 5	$0.75–$0.85(2)	$0.75–$0.85 (2)
No. 6	$0.70–$0.75 (2)	$0.70–$0.75(2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.00 – 4.75	4.00 – 4.75
No. 1 P.W.	3.875–4.125 (2)	3.875–4.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	4.75–5.00 (2)	4.75–5.00 (2)
No. 1 straw	4.00 (1)	4.00 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.375 (1)	4.375 (1)
42-44 gravity w.w.	4.50 – 4.625	4.50 – 4.625
No. 1 p.w.	3.875–4.125 (2)	3.875–4.125 (2)
No. 6 fuel	$0.75–$0.80 (2)	$0.675–$0.80 (2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	May 12	May 5
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.50 (1)	4.50 (1)
No. 1	3.875 (1)	3.875 (1)
No. 2	3.25 (1)	3.25 (1)
No. 3 fuel	3.25 (1)	3.25 (1)
Tractor fuel, for shpt to Ark. points only	4.625 (1)	4.625 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.25 – 5.50	5.25 – 5.50
46 grav. w.w.	5.625 (1)	5.625 (1)
No. 1 fuel	5.125– 5.50	5.125– 5.50
No. 2 "	5.00–5.50 (2)	5.00–5.50(2)
No. 3 "	5.50 (1)	5.50 (1)
36-40 gravity	5.25 (1)	5.25 (1)
Other districts:		
45 grav. w.w.	5.25 – 5.50	5.25 – 5.50
46 grav. w.w.	5.25 – 5.625	5.25 – 5.625
47 grav. w.w.	5.375– 5.75	5.375– 5.75
No. 1 fuel	5.00 – 5.25	5.00 – 5.25
No. 2 "	5.00 – 5.25	5.00 – 5.25
No. 3 "	4.875–5.125 (2)	4.875–5.125 (2)
36-40 grav., Pittsburgh dist. prices excluded	4.75	4.625– 4.75
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.50 – 6.00	5.50 – 6.00
P.W. Distillate	5.50	5.50
No. 3 gas oil, Straw	5.00 – 5.25	5.00 – 5.25
U.G.I. gas oil	4.25 – 4.50	4.25 – 4.50
Fuel Oils (Vis. at 100)		
300-500 Vis.	4.00 (2)	4.00 (2)
100-300 Vis.	4.375 (1)	4.375 (1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	6.00	6.00
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.75	$0.575–$0.65
Light fuel	$0.75	$0.65 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
Los Angeles:		
Heavy fuel	$0.60 –$0.65	$0.575–$0.65
Light fuel	$0.65 –$0.75	$0.65 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices were given by Penna. refiners as their quotations to jobbers & compounders only. Neutral prices were reported by refiners as for limited sale to their regular customers only.

Viscous Neutrals—No. 3 col. Vis. at 70° F		
200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	29.50 (1)	28.50 (1)
10 p.t.	28.50 (1)	27.50 (1)
15 p.t.	27.50 (1)	26.50 (1)
25 p.t.	26.00 –30.00	25.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	27.50 (1)	26.50 (1)
10 p.t.	26.50 (1)	25.50 (1)
15 p.t.	25.50 (1)	24.50 (1)
25 p.t.	24.00 –28.00	23.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	20.50 (1)	19.50 (1)
15 p.t.	19.50 (1)	18.50 (1)
25 p.t.	18.00 –19.00	17.00 –18.00
600 S.R. filterable	10.50 –11.00	10.00 –11.00
650 S.R.	10.00 –13.00	9.50 –13.00
600fl	10.00 –10.50	10.00 –10.50
630fl	11.00 –12.00	11.00 –12.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils: Vis. Color		
60-85—No. 2	5.50 – 5.75	5.50 – 5.75
86-110—No. 2	5.50 – 6.25	5.50 – 6.25
150—No. 3	9.00 –10.25	9.00 –10.25
188—No. 3	9.50 –10.50	9.50 –10.50
200—No. 3	9.50 –11.00	9.50 –11.00
250—No. 3	11.00 –12.00	11.00 –12.00
280—No. 3	11.50 –13.75	11.50 –13.75
300—No. 3	12.50 –14.25	12.50 –14.25

Lubricating Oils (Cont'd)

Prices Effective	May 12	May 5
Red Oils:		
180—No. 5	9.50 (1)	9.50 (1)
200—No. 5	9.50–11.00 (2)	9.50–11.00 (2)
280—No. 5	12.50 (1)	12.50(1)
300—No. 5	12.00 –13.00	12.00 –13.00

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	20.00 (1)	20.00 (1)
150-160 Vis. D:		
0 to 10 p.p.	15.50 –16.00	15.50 –16.00
10 to 25 p.p.	15.00 –15.50	15.00 –15.50
25 to 40 p.p.	14.50 (1)	14.50 (1)
150-160 vis. E	14.50	14.50
120 Vis. D:		
0 to 10 p.p.	14.50 –15.00	14.50 –15.00
600 S.R. Dark Green	7.00 (2)	7.00 (2)
600 S.R. Olive Green	8.00 – 9.50	8.00 – 9.50
631 S.R.	12.00 (1)	12.00 (1)
Black Oil	4.00–5.50 (2)	4.00–5.50(2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.50 – 6.00	5.25 – 6.00
200 No. 2-3	7.75	7.25 – 7.75
300 No. 2-3	8.25	7.75 – 8.25
500 No. 2½-3½	9.00	8.50 – 9.00
750 No. 3-4	9.25	8.75 – 9.25
1200 No. 3-4	9.375	8.875– 9.375
2000 No. 4	9.50	9.00 – 9.50
Red Oils:		
100 No. 3-6	5.75–6.00 (2)	5.75–6.00 (2)
200 No. 5-6	7.75	7.25 – 7.75
300 No. 5-6	8.25	7.75 – 8.25
500 No. 5-6	9.00	8.50 – 9.00
750 No. 5-6	9.25	8.75 – 9.25
1200 No. 5-6	9.375	8.875– 9.375
2000 No. 5-6	9.50	9.00 – 9.50

CHICAGO (From Mid-Continent p.l. crude.)

Neutral Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis. Color		
60-85—No. 2	7.50 (1)	7.50 (1)
86-110—No. 2	7.50 (1)	7.50 (1)
150—No. 3	9.50 (1)	9.50(1)
180—No. 3	10.50 (1)	10.50 (1)
200—No. 3	10.50 (1)	10.50 (1)
250—No. 3	12.00 (1)	12.00(1)
Red Oils:		
180—No. 5	10.50 (1)	10.50(1)
200—No. 5	10.50 (1)	10.50 (1)
250—No. 5	11.50 (1)	11.50 (1)
280—No. 5	12.50 (1)	12.50 (1)
300—No. 5	13.00 (1)	13.00(1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	9.25 (1)	9.25(1)
160	10.00 (1)	10.00 (1)
200	11.00 (1)	11.00 (1)
Bright stocks, 160 vis. at 210, No. 8 color:		
0 to 10 p.p.	17.00 (1)	17.00 (1)
15 to 25 p.p.	16.50 (1)	16.50 (1)
30 to 40 p.p.	15.30 (1)	15.30 (1)
E filtered Cyl. Stock	13.00 (1)	13.00 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	3.25 (Sales)	3.25 (Sales)
FOB BRECKENRIDGE		
Grade 26-70	3.00 (Qtns.)	3.00 (Qtns.)
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.375– 4.625	4.375– 4.625

Naphtha and Solvent

Prices Effective	May 12	May 5
(FOB Group 3)		
Stoddard solvent	5.875– 6.25	5.875– 6.25
Cleaners' naphtha	6.375– 6.75	6.375– 6.75
V. M. & P. naphtha	6.375– 6.75	6.375– 6.75
Mineral spirits	5.375– 5.75	5.375– 5.75
Rubber solvent	6.375– 6.75	6.375– 6.75
Lacquer diluent	6.625– 7.75	6.625– 7.75
Benzol Diluent	7.875– 8.75	7.875– 8.75
WESTERN PENNA		
Untreated naphtha	5.75 – 6.00	5.75 – 6.00
Stoddard solvent	6.25 – 6.50	6.25
OHIO (S. O. Ohio quotations for statewide delivery):		
V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	9.00	9.00
Rubber solvent	8.00	8.00

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L., N. Y.)		
122-124 A.m.p.	3.50	3.25 – 3.50
124-126 A.m.p.	3.50 – 3.75	3.25 – 3.75
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP	3.75 (1)	3.375(1)
131-3 AMP	3.75 (1	3.625 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
126-127	5.60	5.60
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	5.625– 6.375	5.625– 6.375
Lily White	4.875– 5.375	4.875– 5.375
Cream White	4.00 – 4.375	4.00 – 4.375
Light Amber	3.125– 3.50	3.125– 3.50
Amber	2.875– 3.125	2.875– 3.125
Red	2.625– 3.00	2.625– 3.00

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline Kerosine Cents per Cwt.	Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.234	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	58.5	3.861	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Minneapolis-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective May 12

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	7.70 – 8.40	7.00 – 7.50	7.00–7.50 (2)
N. Y. Harb., barges	7.70–7.90 (2)	6.75 – 7.25	6.75–7.25 (2)
Albany	7.80	....	....
Philadelphia	7.50 – 8.25	7.00 – 7.50	7.00–7.75 (2)
Baltimore	7.00 – 7.50	7.00–7.50 (2)	7.00–7.50 (2)
Norfolk	6.625– 7.50	6.625– 7.50	6.50 – 7.50
Wilmington, N. C.	6.625– 8.25	6.625–6.75 (2)	6.875–7.00 (2)
Charleston	7.00 – 7.50	6.625–6.75 (1)	6.875–7.00 (1)
Savannah	6.875– 7.25	6.75 (1)	6.50–6.75 (2)
Jacksonville	6.50 – 7.50	6.25 (1)	6.125–7.00 (2)
Miami	7.00–7.25 (2)	....	6.625–6.75 (1)
Tampa	6.50 – 7.25	6.25 (1)	6.625–6.75 (1)
Pensacola	6.75–7.00 (1)	....	6.375–6.50 (1)
Mobile	6.625–7.00 (2)	....	6.375–6.50 (1)
Portland	8.00	8.00 (1)	....
Boston	7.90	7.65 – 7.75	7.75 (1)
Providence	7.90	7.65–7.75 (2)	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.20	4.90	4.90	$1.55 –$1.65	$1.25 –$1.35
N. Y. Harb., barges	5.10	4.80	4.80	....	....
Albany	5.30 – 5.40	5.00	5.00 (2)	$1.95 (1)	$1.55 (1)
Philadelphia	5.25 – 5.50	5.00	5.00	$1.47 –$1.57	$1.25 –$1.35
Baltimore	5.25	4.75 – 5.00	5.00	$1.57 (1)	$1.35
Norfolk	5.25 – 5.50	4.75 – 5.00	5.00 (2)	....	$1.35 (2)
Wilmington, N. C.	5.00 – 5.50	4.75 – 5.00	....	....	....
Charleston	5.25 – 5.50	5.00 (2)	....	....	$1.30 (2)
Savannah	5.25 – 5.50	4.75 (1)	....	....	$1.30 (1)
Jacksonville	5.00 – 5.25	5.00 (1)	5.00 (1)	....	$1.30 (1)
Miami	5.00–5.25 (2)	....	....	....	....
Tampa	4.75 – 5.25	5.00 (1)	....	....	$1.25 (1)
Pensacola	5.00–5.25 (1)	....	....	....	....
Mobile	4.625– 4.75	....	....	....	....
Portland	5.40	5.00	5.00 (2)	$1.95	$1.35 –$1.55
Boston	5.30	4.90	4.90 (2)	$1.55–$1.65 (2)	$1.25 –$1.35
Providence	5.30	4.90	4.90	$1.55 –$1.65	$1.25 –$1.35

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.25 –$1.35	$2.00	4.90–5.00 (2)	5.00 (2)
Albany	$1.55 (1)	$2.20 (1)	5.00 (1)	5.20 (1)
Philadelphia	$1.25 –$1.35	$2.00 –$2.10	....	....
Baltimore	$1.35	$2.00	4.25 (1)	4.25 (1)
Norfolk	$1.35	$2.00	4.25 (1)	4.25 (1)
Charleston	$1.30	$2.00 –$2.10	4.25 (1)	4.25 (1)
Savannah	$1.30 (1)	$1.99 (1)	....	....
Jacksonville	$1.30 (2)	$1.99 –$2.10	....	....
Tampa	$1.25 (2)	$1.99 –$2.10	....	....
Portland	$1.35 –$1.55	$2.10	5.00 (1)	5.10 (1)
Boston	$1.25 –$1.35	$2.00	4.90 (2)	5.00 (2)
Providence	$1.25 –$1.35	$2.00	4.90 (1)	5.00 (1)

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	May 12	May 5
Bright stock:		
Light, 25 p.t.	28.50 (1)	26.50 (1)
Neutral oil:		
150 3 color, 25 p.t.	33.00 (1)	29.00 (1)
600 s.r., unfilt.	20.00 (1)	19.00 (1)
650 s.r., unfilt.	20.25 (1)	19.50 (1)
600 fl. s.r.	20.50 (1)	20.00 (1)
630 fl., s.r.	21.00 (1)	21.00 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices Effective May 12

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	3.50(1)	....	3.50(1)
122-4 White	....	3.50–3.60	3.50
124-6 White	3.50-3.75(2)	3.50–3.60	3.50–3.75
Fully Refined:			
123-5	....	5.60 (a)	5.60(2)
125-7	5.60(1)	5.60(a)	5.60
128-30	5.60(1)	5.60–5.70	5.60
130-2	5.85(1)	5.85	5.85
133-5	6.15(1)	6.15	6.15
135-7	6.40(1)	6.40(2)	6.40

108-11 White Match wax (tight bbls.) 4.00 (1)

(a) 0.4c discount generally given for slabs loose.

Naphtha

Prices Effective May 12	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50 (2)	8.00 – 8.50
New York Harbor	9.80	8.80 – 9.00
Philadelphia district	10.00 (2)	8.50 – 9.00
Boston	10.00 (2)	9.25 – 9.50
Providence	9.00 (1)	8.75–9.50 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	May 12	May 5
375 e.p. blend, 70 oct.	5.875– 6.125	5.875– 6.125
390 e.p. blend, 68 oct.	5.75 – 6.00	5.75 – 6.00
390 e.p. blend, 66 oct.	5.625– 5.75	5.50 – 5.75
400 e.p. blend, 65 oct. min.	5.25 – 5.375	5.125– 5.25
U. S. Motor, under 65 octane	5.00 – 5.125	5.00 – 5.125
38-40 grav. w.w. kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.75 –$0.85	$0.75 –$0.85
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.75 –$0.85	$0.75 –$0.85

Pacific Export (Cont'd)

Prices Effective	May 12	May 5
Cased Goods: (Per case)		
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct.	$1.40 –$1.50	$1.40 –$1.50
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate rates. Cents per bbl.)

Gulf-N. Atlantic: (not E. of N.Y.)	Last Paid	Owners Ask
Hvy. Crude & Fuel (10 to 19.9 gravity)	57	....
Light Crude, (30 grav. or Lighter)	50	....
Gasoline	50	....
Kerosine	53	....
No. 2 Fuel	57	....

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective May 12

Motor Gasoline Domestic	
Min. 80 oct. '39 Research, max. 2cc lead	5.625– 6.00
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.50 – 5.75
70 oct. unleaded " "	5.75 – 6.00
68 oct. " "	5.75 – 6.00
65 oct. " "	5.25
60 oct. " "	5.00
41-43 w.w. kerosine	3.375– 3.75
No. 2 fuel	3.25 – 3.50
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.125– 3.25
43-47 " "	3.125– 3.25
48-52 " "	3.125– 3.375
53-57 " "	3.25 – 3.50
58 & above diesel index	3.625
Diesel Oil, ships' bunkers (ex-lighterage)	$1.45 –$1.50
Bunker C, " " "	$0.85 –$0.90
Bunker C, cargoes	$0.85 –$0.90
Motor Gasoline Export	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.50 – 5.75
70 oct. unleaded "	5.75 – 6.00
68 oct. " "	5.75 – 6.00
65 oct. " "	5.25
60 oct. " "	5.00
61-63 Gravity, Max. 390 e.p.	
72-74 oct. leaded (ASTM)	5.50
60 oct. unleaded "	....
64-66 Gravity, Max. 375 e.p.	
72-74 oct. leaded (ASTM)	5.50
60 oct. unleaded "	....
41-43 w.w. kerosine	3.375– 3.75
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.125– 3.25
43-47 " "	3.125– 3.25
48-52 " "	3.125– 3.375
53-57 " "	3.25 – 3.50
58 & above diesel index	3.625

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

	May 12 New Steel Drums	Bulk
200 vis. D. 210 brt. stock	26.50–27.00 (2)	21.00–21.30 (2)
150 vis. D 210 brt. stock 0-10 p.p.	22.50–23.00 (2)	17.00–17.30 (2)
10-25 p.p.	22.50 (1)	16.80 (1)
100 vis. D 210 brt. stock 0-10 p.p.	22.50 (1)	16.80 (1)
10-25 p.p.	22.00 (1)	16.30 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	17.80 (1)	11.80 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	May 12	May 5
100 No. 3	5.50–6.25 (2)	6.00–6.25 (2)
200 No. 3	7.75 (2)	7.50–7.75 (2)
300 No. 3	8.25 (2)	8.00–8.25 (2)
500 No. 3½	9.00–9.25 (2)	9.00–9.25 (2)
750 No. 4	9.50–9.75 (2)	9.50–9.75 (2)
1200 No. 4	9.75–10.25 (2)	10.00–10.25 (2)
2000 No. 4	....	10.25 (1)
Red Oils: Vis. Color		
100 No. 5-6	5.50 (1)	6.00 (1)
200 No. 5-6	7.75 (2)	7.50–7.75 (2)
300 No. 5-6	8.25 (2)	8.00–8.25 (2)
500 No. 5-6	9.00–9.25 (2)	9.00–9.25 (2)
750 No. 5-6	9.50–9.75 (2)	9.50–9.75 (2)
1200 No. 5-6	9.75–10.25 (2)	10.00–10.25 (2)
2000 No. 5-6	11.00 (1)	10.25–10.50 (2)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 12, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	7.9	8.9	4.5	7.8
*Newark, N. J.	7.9	8.9	4.5	7.8
Annapolis, Md.	7.85	9.35	5.5	9.5
Baltimore, Md.	7.25	8.75	5.5	8.5
Cumberland, Md.	8.65	10.15	5.5	10
Washington, D. C.	7.5	9	3.5	9
Danville, Va.	7.95	10.45	6.5	10.25
Norfolk, Va.	6.75	9.25	6.5	10
Petersburg, Va.	7.05	9.55	6.5	11
Richmond, Va.	7.05	9.55	6.5	11
Roanoke, Va.	8.25	10.75	6.5	10.5
Charleston, W. Va.	8.05	10.55	6.5	11.5
Parkersburg, W. Va.	7.35	9.85	6.5	11.2
Wheeling, W. Va.	8.35	9.9	6.5	11.8
Charlotte, N. C.	9.30	10.8	7.5	9.3
Hickory	9.85	11.35	7.5	10.3
Mt. Airy, N. C.	9.7	11.2	7.5	11
Raleigh, N. C.	9.05	10.55	7.5	10.3
Salisbury, N. C.	9.35	10.85	7.5	10.7
Charleston, S. C.	7.15	9.65	7.5	...
Columbia, S. C.	8	10.5	7.5	...
Spartanburg, S. C.	8.7	11.2	7.5	...

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	12	13.5
Baltimore, Md.	15	....
Washington, D. C.	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.8	6.9	6.9
Newark	7.8	6.9	6.9
Annapolis, Md.	..	7	..
Baltimore	7.5	6.75	6.25
Washington, D. C.	8	7	7
Norfolk, Va.	7.5	6.5	6.5
Petersburg	7.75	6.75	....
Richmond	7.75	6.75	6.75
Charlotte, N. C.	8.3	8.2	....
Hickory	..	7.8	....
Raleigh	9.3	7.9	....
Charleston, S. C.	..	6.8	....
Columbia	..	7.8	....
Spartanburg	..	8.5	....

*Effective April 25, '41, minimum retail resale price of 12.4c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosene—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price: Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Com. T.C.	Undiv. Cons. T.W.	Dlr. T.W.	Gasoline Taxes
New York City:				
Manhattan & Bronx	8.6	8.3	9	*5.5
Kings & Queens	8.6	8.3	9	*5.5
Richmond	8.2	7.9	8.4	5.5
Albany, N. Y.	8.4	8.1	8.2	5.5
Binghamton, N. Y.	8.8	8.9	9.4	5.5
Buffalo, N. Y.	8.7	8.4	8.9	5.5
Jamestown, N. Y.	8.7	8.4	8.9	5.5
Mt. Vernon, N. Y.	8.8	8.5	9	5.5
Plattsburg, N. Y.	9.4	9.1	9.6	5.5
Rochester, N. Y.	8.7	9.4	9.9	5.5
Syracuse, N. Y.	8.5	9	9.5	5.5
Bridgeport, Conn.	8.5	8.2	8.7	4.5
Danbury, Conn.	9	8.7	9.2	4.5
Hartford, Conn.	8.8	8.5	9	4.5
New Haven, Conn.	8.5	8.2	8.7	4.5
Bangor, Me.	9	8.7	9.7	5.5
Portland, Me.	8.6	8.3	9.3	5.5
Boston, Mass.	7.9	7.6	8.7	4.5
Concord, N. H.	10.1	9.8	10.3	5.5
Lancaster, N. H.	10.8	10.5	11	5.5
Manchester, N. H.	9.1	8.5	9	5.5
Providence, R. I.	7.9	7.9	8.7	4.5
Burlington, Vt.	9.4	9.1	9.6	5.5
Rutland, Vt.	9.5	9.2	9.7	5.5

	Mineral Spirits T.W.	V.M.&.P. T.W.
Buffalo, N. Y.	9.8	10.5
†New York City	9.5	10.5
Rochester, N. Y.	10.7	11.4
Syracuse, N. Y.	11.5	....
Boston, Mass.	11	11.5
Hartford, Conn.	12	13
Providence, R. I.	12	12.5

	Kerosine Yard	TW	Mobilfuel Diesel TC	TW	Mobilheat Fuel Yard	TW
New York:						
Manhat'n & Bronx	...	7.9	...	7.1	...	6.7
Kings & Queens	5.4	7.9	...	7.1	5.1	6.7
Richmond	5.4	7.9	...	7.1	5.1	6.7
Albany	5.6	7.6	5.2	7.2	5.2	6.9
Binghamton	7	9	...	...	6.6	8.1
Buffalo	6.2	8	5.7	7.7	5.7	7.4
Jamestown	5.9	8	...	...	5.9	7
Mt. Vernon	5.6	8.1	...	7.3	5.3	6.9
Plattsburg	6.2	8.2	...	...	5.8	7.3
Rochester	6.8	8.8	...	...	6.1	7.6
Syracuse	6.7	8.7	...	...	6.3	7.8
Conn.:						
Bridgeport	5.7	7.5	...	...	5.4	6.7
Danbury	6.2	8.2	...	...	5.7	7
Hartford	5.6	7.5	...	7.3	5.3	6.9
New Haven	5.2	6.8	...	...	5.5	7.5
Maine:						
Bangor	6	8	...	...	5.4	7
Portland	5.6	8	5.2	7.2	5.2	6.9
Mass.:						
Boston	5.7	7.9	5.3	7.3	5.3	6.9
N. H.:						
Concord	6.5	8.5	...	...	6.4	7.9
Lancaster	7.6	9.6	...	...	7.4	8.9
Manchester	6.6	8.9	...	...	6.1	7.6
R. I.:						
Providence	5.7	7.7	5.3	7.3	5.3	6.8
Vermont:						
Burlington	6.2	8.2	...	...	5.7	7.1
Rutland	6.4	8.4	...	...	5.9	7.4

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	8	9	5.5	10
Pittsburgh	8.5	10	5.5	10.5
Allentown	8.5	10	5.5	10.5
Erie	8	10	5.5	10
Scranton	8.5	10	5.5	10.5
Altoona	8.5	10	5.5	10.5
Emporium	8.5	10	5.5	10.5
Indiana	8.5	10	5.5	10.5
Uniontown	8.5	10	5.5	10.5
Harrisburg	8.5	10	5.5	10.5
Williamsport	8.5	10	5.5	10.5
Dover, Del.	...	9.5	5.5	10.5
Wilmington, Del.	...	9	5.5	10
Boston, Mass.	...	9.2	4.5	7.9
Springfield, Mass.	...	9.5	4.5	8.8
Worcester, Mass.	...	9.6	4.5	7.9
Fall River, Mass.	...	9.2	4.5	8.5
Hartford, Conn.	...	9.5	4.5	7.8
New Haven, Conn.	...	9.2	4.5	8.6
Providence, R. I.	...	9.2	4.5	8.5
Atlantic City, N. J.	...	8.9	4.5	7.8
Camden, N. J.	...	8.9	4.5	7.8
Trenton, N. J.	...	8.9	4.5	7.6
Annapolis, Md.	...	9.35	5.5	8.5
Baltimore, Md.	...	8.75	5.5	7.5
Hagerstown, Md.	...	9.85	5.5	8
Richmond, Va.	...	9.55	6.5	9.5
Wilmington, N. C.	...	9.75	7.5	9.6
Brunswick, Ga.	...	8.5	7.5	*9
Jacksonville, Fla.	...	8.5	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	7	7	4.50	3.75
Allentown, Pa.	8.5	7.2	7.2	....	....
Wilmington, Del.	8.00	7	7	....	....
Springfield, Mass.	8.8	7.3	7.3	....	....
Worcester, Mass.	7.9	7.2	7.2	....	....
Hartford, Conn.	7.8	6.9	6.9	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off, Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Reselers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	11.5	9.5	13	5.5	8.5
Akron	11.5	8.5	11	5.5	8.5
Cincinnati	11.5	8.5	11	5.5	8.5
Cleveland	11.5	9	12	5.5	8.5
Columbus	11.5	9	12	5.5	8.5
Dayton	11.5	8	10.5	5.5	8.5
Marietta	11.5	9	12	5.5	8.5
Portsmouth	11.5	9	12	5.5	8.5
Toledo	11.5	8.5	11	5.5	8.5
Youngstown	11.5	9	12	5.5	8

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 74 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.	17.5	5.5
Esso Ethyl Aviation 90 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphthas—T.W. Statewide	Lucas County
S. R. Solvent	12.75	12.75
D.C. Naphtha	13.25	13
V.M.&P. Naphtha	13.25	13
Varnolene	13.25	13
Sohio Solvent	13.25	13

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	7.5	7.5	7	....
Cleveland	9.5	9.5	9.0	6.75

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*) Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	7.5	6.5	6.5	9
Lexington, Ky.	9.5	8	6.5	9
Louisville, Ky.	9	7.5	6.5	8.5
Paducah, Ky.	9.5	8.5	6.5	6.5
Jackson, Miss.	9	8	7.5	*8.5
Vicksburg, Miss.	8.5	7.5	7.5	*8
Birmingham, Ala.	8.5	7.5	*8.5	8
Mobile, Ala.	8	6.5	*9.5	8
Montgomery, Ala.	9	8	*9.5	*9
Atlanta, Ga.	9	8	7.5	*9
Augusta, Ga.	9.5	8.5	7.5	*8.5
Macon, Ga.	9	7.5	7.5	*8
Savannah, Ga.	8.5	7.5	7.5	*8
Jacksonville, Fla.	8.5	7.5	8.5	8
Miami, Fla.	8.5	7.5	8.5	8
Pensacola, Fla.	8	7	*9.5	8
Tampa, Fla.	8.5	7.5	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*) Standard (*Third Grade*)

	Red Dealer Prices Crown Cons. T.W.	Red Crown	Stano-lind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	10.6	8.6	6.9	4.5	10
Decatur, Ill.	10.6	9.1	8.6	4.5	8.5
Joliet, Ill.	11.6	10.1	8.6	4.5	10
Peoria, Ill.	11.6	9.2	8.6	4.5	10
Quincy, Ill.	11.4	9.9	8.4	4.5	9.8
Indianapolis, Ind.	11.8	9.8	9.4	5.5	*10
Evansville, Ind.	11.6	9.4	8.6	5.5	*9.8

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes:** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnoles. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 12, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown T.W.	Stano-lind T.W.	Gaso-line Taxes	Kero-sine T.W.
South Bend, Ind	11.8	10.3	9.3	5.5	*10
Detroit, Mich	10.6	9.1	8.1	4.5	9.1
Grand Rapids, Mich	10.9	9.4	8.9	4.5	9.1
Saginaw, Mich	10.9	9.4	8.9	4.5	9.1
Green Bay, Wis	12.4	10.9	10.4	5.5	10.8
Milwaukee, Wis	11.8	10.3	9.8	5.5	10.2
La Crosse, Wis	12	10.5	10	5.5	10.4
Minneapolis-St. Paul	12	10.5	9	5.5	10.4
Duluth, Minn	12.4	10.9	10.4	5.5	10.8
Mankato, Minn	12	10.5	9	5.5	9.9
Des Moines, Ia	11.4	9.9	8.4	4.5	*9.8
Davenport, Ia	11.6	10.1	9.6	4.5	*10
Mason City, Ia	11.8	10.3	7.8	4.5	*10.2
St. Louis, Mo	10.7	9.2	7.5	*4.5	9.6
Kansas City, Mo	10.9	7.9	6.9	*4.5	8.6
St. Joseph, Mo	10.9	9	8	*4.5	8.4
Fargo, N. D	13.2	11.7	9.5	5.5	11.6
Huron, S. D	12.5	11	10.5	5.5	10.9
Wichita, Kans	9.8	7.5	6	4.5	7.2

Stanavo Aviation 73 Octane

Chicago, Ill	14.9
Detroit, Mich	16.5
Milwaukee, Wis	15.1
Minneapolis, Minn	15.3
St. Louis, Mo	14.5
Kansas City, Mo	14.1
Fargo, N. D	16.5
Huron, S. D	15.8

(Prices are base prices before discounts)

	Oleum Spirits	V.M.&P. Naphtha	Stani-sol	*Taxes
Chicago	12.7	13	12.4	4.5
Detroit	15.2	14.2	15.7	4.5
K. C., Mo	12.9	13.9	13.4	1.5
St. Louis	13.2	14.2	12.4	1.5
Milwaukee	13.8	14.8	14.3	5.5
Minneap'lis	14	15	12.7	4.5

	Fuel Oils T.W. Standard Heater Oil Chicago:
1-99 gals	8.75
100-149 gals	7.75
150 gals. & over	7.25

	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals	8.5	8.5
100-149 gals	7.5	7.5
150-399 gals	7.25	7.25
400 gals. & over	6.75	6.75

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals	7.5	7.5
100-399 gals	6.5	6.5
400-749 gals	5.5	5.5
750 gals. & over	4.75	4.75

	Stanolex Bunker C Fuel Oil
1-399 gals	6
400-999 gals	5
1000 gals. & over	4

Other Points:	Stanolex No. 1	Stanolex Furnace Oil
Indianapolis		
1-99 gals	...	*8.5
100 gals. & over	...	*7.5
Detroit		
1-99 gals	...	7.8
100 gals. & over	...	7.8
Milwaukee		
1-99 gals	9.2	8.7
100 gals. & over	8.2	7.7
Minneapolis		
1-99 gals	8.2	8.2
100 gals. & over	...	7.2
100-199 gals	7.7	...
200 gals. & over	7.2	...
St. Louis		
1-99 gals	8	7.5
100 gals. & over	7	6.5
Kansas City		
1-49 gals	7.8	...
50 gals. & over	6.8	...
1-99 gals	...	7.8
100 gals. & over	...	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gaso-line Taxes	Kero-sine T.W.
Omaha	11.4	6.9	6.5	9.8
McCook	11	8.4	6.5	8.5
Norfolk	11.5	9.9	6.5	9.9
North Platte	11.8	10	6.5	10.2
Scottsbluff	10.9	8.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Car	Dealer T.w.	Gaso-line Taxes	Kero-sine T.W.
New Orleans, La	6.75	9.25	8.5	*9
Baton Rouge, La	6.75	9.25	8.5	*9.5
Alexandria, La	6.75	9.25	8.5	*9.5
Lafayette, La	7	9.5	8.5	*9
Lake Charles, La	7	9.5	8.5	*9
Shreveport, La	6	8.5	8.5	*9
Knoxville, Tenn	9.5	12	8.5	12.5
Memphis, Tenn	7	9.5	8.5	10.5
Chattanooga, Tenn	9	10	8.5	11
Nashville, Tenn	8.5	10.25	8.5	10
Bristol, Tenn	9.75	9.75	8.5	12
Little Rock, Ark	7.25	9.75	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To individed dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (Regular Grade)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Re-tail	Thriftane *Tank Wagon	Thriftane Re-tail	Gaso-line Taxes
Dallas, Tex	†6.5	9.5	†5.5	8	5.5
Ft. Worth, Tex	6.5	10.5	5.5	8.5	5.5
Houston, Tex	8	12	6	9	5.5
San Antonio, Tex	8	12	6	9	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex	6	10
Ft. Worth, Tex	7	11
Houston, Tex	8	11
San Antonio, Tex	7	11

74 Oct. Aviation Gasoline, Clear	Tank Car
FOB Baytown, Tex	8.5

*To all classes of dealers & consumers.
†Discounts to dealers only: Humble 1c; Thriftane 0.5c.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gaso-line Taxes
Dallas, Tex	6.5	5.5	5.5
Ft. Worth, Tex	6.5	5.5	5.5
Wichita Falls, Tex	7.5	5.5	5.5
Amarillo, Tex	7.5	5.5	5.5
Tyler, Tex	7.5	5.5	5.5
El Paso, Tex	9	8	5.5
San Angelo, Tex	7.5	5.5	5.5
Waco, Tex	7.5*	5.5**	5.5
Austin, Tex	8	6	5.5
Houston, Tex	8	6	5.5
San Antonio, Tex	8	6	5.5
Port Arthur, Tex	8	6	5.5

*Less 1c temporary allowance to all dealers.
**Less 0.5c temporary allowance to all dealers.

Continental Oil

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gaso-line Taxes	Kero-sine T.W.
Denver, Col	8.5	7.5	5.5	10.5
Grand Junction, Col	12	11	5.5	12
Pueblo, Col	8.5	7.5	5.5	9
Casper, Wyo	11	10	5.5	11.5
Cheyenne, Wyo	10	9	5.5	11
Billings, Mont	11	10	6.5	12
Butte, Mont	10	9	6.5	13
Great Falls, Mont	10	9	6.5	12
Helena, Mont	10	9	6.5	12.5
Salt Lake City, Utah	11.5	10.5	5.5	14
Boise, Ida	13.1	12.1	6.5	16
Twin Falls, Ida	14.1	13.1	6.5	16.5
Albuquerque, N. M	10	9	*7	9.5
Roswell, N. M	8	7	*7	8
Santa Fe, N. M	10	9	*7.5	9.5
Ft. Smith, Ark	8.5	5.75	*5.5	6.5
Little Rock, Ark	9.25	5.4	8	8
Texarkana, Ark	8.5	6.5	*5.5	6
Muskogee, Okla	7.5	6.5	5.5	7
Oklahoma City, Okla.	7	6.5	5.5	7
Tulsa, Okla	7	6.5	5.5	7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 4c state tax applies within city limits of Ft. Smith, Ark.

†To consumers & dealers

Discounts: To dealers only — Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Tank Truck	Standard Retail	Flight Tank Truck	Flight Retail	Gaso-line Taxes
San Francisco, Cal	12.5	13.5	10.5	11.5	4.5
Los Angeles, Cal	12	13	10	11	4.5
Fresno, Cal	13.5	14.5	11.5	12.5	4.5
Phoenix, Ariz	14.5	15.5	11.5	12.5	6.5
Reno, Nev	14.5	15.5	12.5	13.5	5.5
Portland, Ore	13	14	11	12	6.5
Seattle, Wash	13	14	11	12	6.5
Spokane, Wash	14.5	15.5	12.5	13.5	6.5
Tacoma, Wash	13	14	11	12	6.5

	Stanavo Tank Truck	Aviation Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal	15.5	4.5	11.5
Los Angeles, Cal	15	4.5	10
Fresno, Cal	16.5	4.5	12.5
Phoenix, Ariz	17.5	6.5	*12.5
Reno, Nev	17.5	5.5	13.5
Portland, Ore	16	6.5	13.5
Seattle, Wash	16	6.5	13.5
Spokane, Wash	19	6.5	16.5
Tacoma, Wash	16	6.5	13.5

*Taxes: Phoenix kerosine price is ex 5c state tax.
Discounts:
To Resale & Commercial Consumers—3c off posted tank truck tax included price on Standard & Stanavo Aviation, 2c off on Flight. Deliveries less than 40 gals. to commercial consumer trade, 1c a gal. above posted tank truck tax included price, except single deliveries to Marine trade only which are billed at posted tank truck tax included price less 3c for Standard & Stanavo Aviation, and less 2c for Flight.
Kerosine—Tank car and truck & trailer deliveries, 3c off posted tank truck price; plant stem deliveries to jobbers, 2.5c off posted tank truck price.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline (*Regular Grade*)

	Gasoline T.W.	Gasoline Taxes	Kero-sine T.W.
Hamilton, Ont	16.5	8	17
Toronto, Ont	16.5	8	17
Brandon, Man	21	7	23
Winnipeg, Man	20.5	7	22.5
Regina, Sask	18	7	20
Saskatoon, Sask	20.8	7	22.8
Edmonton, Alta	18.9	7	20.9
Calgary, Alta	16	7	18
Vancouver, B. C	16	7	23
Montreal, Que	16	8	16.5
St. John, N. B	14.50	10	18
Halifax, N. S	14.50	10	18

Discounts: Gasoline—Maritime Provinces—undivided & divided dealers, t.w. price; British Columbia—undivided and divided dealers, 2c off t.w. price; balance of territory—undivided dealers, 1c off t.w. price, divided dealers, t.w. price.

Tank Wagon Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso Gasoline:
Following advances May 7: Charlotte t. w. 0.8c, Mt. Airy t. w. 1.3c, & Salisbury t. w. 1.45c.

Socony-Vacuum—Mobilgas:
Manhattan & Bronx, Kings & Queens (N.Y.C.) prices up 0.7c to 0.8c May 9; Binghamton consumer & dealer t. w. up 0.4c May 8; Jamestown prices up 0.7c May 8; Mt. Vernon prices up 0.8c May 9; Rochester consumer & dealer t. w. up 1c May 8; Syracuse consumer & dealer t. w. up 0.8c May 8.

Atlantic Refining—White Flash Gasoline:
Prices up 0.5c generally thruout Pennsylvania & Delaware May 9, except Erie t. c. up 1c.

Atlantic Refining—Kerosine:
Williamsport up 0.5c May 5; Trenton cut 0.2c Apr. 30; Annapolis & Baltimore up 0.5c May 3; Hagerstown up 0.4c May 9.

S. O. Ohio—X-70 Gasoline:
Prices up 0.5c at all points May 6, except Akron s. s. up 1c.

S. O. Indiana—Red Crown Gasoline:
Wichita dealer cut 0.8c May 9.

S. O. Nebraska—Standard Gasoline:
Omaha dealer cut 1.5c May 3.

Continental Oil—Conoco Bronz-z-z Gasoline:
Ft. Smith, Texarkana & Little Rock up 0.5c Apr. 26.

Continental Oil—Demand Gasoline:
Ft. Smith up 0.5c Apr. 26; cut 0.5c May 10. Little Rock cut 0.1c Apr. 26.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Apr. 23, '41)

Bradford-Allegany $2.40
Southwest Penna. $2.05
Eureka (West Va.) $1.99
Corning, O. (May 2, '41) $1.24

Posted by Tide Water Assoc. Oil Co. (Apr. 23, '41)

Bradford-Allegany $2.40

Posted by The Pennzoil Co., (Apr. 23, '41)

National Transit $2.33*

Posted by Valvoline Pipe Lines (Apr. 23, '41)

Bradford (Elk & McKean Counties, Pa.) $2.40
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.33
Allegheny, Beaver, Washington & Greene Counties, Pa. $2.05
West Virginia $1.99
South Eastern Ohio $1.95

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.28 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 1, '41)

Midland, Midland County $1.37
Sherman $1.32

Posted by Simrall Corp. (May 1, '41)

Greendale, Porter, Vernon, Crystal & Wise $1.37
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.35
Freeman, Redding, Lincoln & Winterfield $1.32
West Branch-Arenac $1.17
Hamilton-Grout $1.22

Posted by Sohio Corp. (Mich. Div.)

Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (May 5, '41) $1.38
Trenton crude, Monroe Co. (May 5, '41) $1.32

Posted by Bay Pipe Line Corp. (May 1, '41)

Saginaw & Wise $1.37
Buckeye, Bentley & Kawkawlin $1.35
Clare $1.06
Adams $1.20

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (April 28, '41)

Illinois Basin, including Griffin pool $1.27
Carmi Storms, Ill. area $1.22
Birk City, Ky. area 1.22
Corydon, Ky. area, Henderson 1.22

Posted by Ohio Oil Co. (Apr. 28, '41)

Illinois Basin $1.27
Eastern Ill. & Western Ind. 1.12

Posted by Carter Oil Co. (April 28, '41)

Louden, Fayette Co. Ill. $1.27

Posted by Mohawk Oil Lines, Inc. (April 28, '41)

Southern Illinois $1.27

Posted by Ashland Oil & Transp. Co. Somerset oil in Ash. Lines, Ky.: (May 1, '41)

Big Sandy River $1.22
Kentucky River $1.30

Posted by Owensboro-Ashland Co.

Owensboro, Ky. area (April 28, '41) $1.22

Posted by S. O. Ohio (May 1, '41)

Lima, O. $1.10
Cleveland, Lodi & Chatham (O.) areas $1.15

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4	Schedule No. 5
Below 21	$0.75	$0.65	....	$0.60	$0.68
21-21.9	.77	.68	....	.63	.70
22-22.9	.79	.71	....	.66	.72
23-23.9	.81	.74	....	.69	.74
24-24.9	.83	.77	....	.72	.76
25-25.9	.85	.80	$0.63	.75	.78
26-26.9	.87	.83	.68	.78	.80
27-27.9	.89	.86	.73	.81	.82
28-28.9	.91	.89	.78	.84	.84
29-29.9	.93	.92	.83	.87	.86
30-30.9	.95	.95	.87	.90	.88
31-31.9	.97	.97	.91	.92	.90
32-32.9	.99	.99	.95	.94	.92
33-33.9	1.01	1.01	1.01	.96	.94
34-34.9	1.03	1.03	1.03	.98	.96
35-35.9	1.05	1.05	1.05	1.00	.98
36-36.9	1.07	1.07	1.07	1.02	1.00
37-37.9	1.09	1.09	1.09	1.04	1.02
38-38.9	1.11	1.11	1.11	1.06	1.04
39-39.9	1.13	1.13	1.13	1.08	1.06
40 & above	1.15	1.15	1.15	1.10	1.08

Above schedules posted by:

No. 1: S. O. Indiana April 1, '41 in Okla. & Kans. Continental Apr. 1, '41 in Okla. & Kans. with lowest grade Below 29 at $0.91.

No. 2: Carter & Magnolia Apr. 1, '41 in Okla. **Shell** Apr. 1, '41 n Okla. & Kans. (exclusive of Carter Co., Okla.)

No. 3: Sinclair-Prairie Apr. 1, '41 in Okla. & Kans.

No. 4: Shell Apr. 1, '41 in Carter Co., Okla.

No. 5: Stanolind Apr. 1, '41 in N. Texas. **Magnolia** Apr. 1 '41 in N. & N. Central Texas. **The Texas Co.** Mar 29, '41 in N.-N. Central Texas. **Sinclair-Prairie** Apr. 1, '41 in Mexia & N. Central Texas. **Continental** Mar. 29, '41 in N. Texas. **Magnolia, Sinclair-Prairie, & Continental** schedules begin with Below 29 at $0.84. Texaco schedule begins with 28-28.9 at $0.84.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.—(March 29, 1941)

Gravity	Refugio	Texas Gulf Coast	Mirando	Anahuac	Dickinson	East Central Texas	West Central Texas	Panhandle, W. Texas & New Mex.	Hawkins Texas
Below 20	$0.98	$0.96	$0.93	$0.88	$0.83	....	....	$0.60	$0.73
20-20.9	1.00	.98	.95	.90	.85	....	....	.62	.75
21-21.9	1.02	1.00	.97	.92	.87	....	....	.64	.77
22-22.9	1.04	1.02	.99	.94	.89	....	....	.66	.79
23-23.9	1.06	1.04	1.01	.96	.91	....	....	.68	.81
24-24.9	1.08	1.06	1.03	.98	.93	....	....	.70	.83
25 & above	....	....	....	....	....	....	....	....	.85
25-25.9	1.10	1.08	1.05	1.00	.95	$0.87	$0.78	.72	....
26-26.9	1.12	1.10	1.07	1.02	.97	.89	.80	.74	....
27-27.9	1.14	1.12	1.09	1.04	.99	.91	.82	.76	....
28-28.9	1.16	1.14	1.11	1.06	1.01	.93	.84	.78	....
29-29.9	1.18	1.16	1.13	1.08	1.03	.95	.86	.80	....
30-30.9	1.20	1.18	1.15	1.10	1.05	.97	.88	.82	....
31-31.9	1.22	1.20	1.17	1.12	1.07	.99	.90	.84	....
32-32.9	1.24	1.22	1.19	1.14	1.09	1.01	.92	.86	....
33-33.9	1.26	1.24	1.21	1.16	1.11	1.03	.94	.88	....
34-34.9	1.28	1.26	1.23	1.18	1.13	1.05	.96	.90	....
35-35.9	1.30	1.28	1.25	1.20	1.15	1.07	.98	.92	....
36-36.9	1.32	1.30	1.27	1.22	1.17	1.09	1.00	.94	....
37-37.9	1.34	1.32	1.29	1.24	1.19	1.11	1.02	.96	....
38-38.9	1.36	1.34	1.31	1.26	1.21	1.13	1.04	.98	....
39-39.9	1.38	1.36	1.33	1.28	1.23	1.15	1.06	1.00	....
40 & above	1.40	1.38	1.35	1.30	1.25	1.17	1.08	1.02	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, West Texas & New Mexico: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties; Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.33
Tomball 1.30
Van 0.98
Talco 0.72
East Texas & Flag Lake $1.15
Flour Bluff, E. Flour Bluff 1.23
Salt Flat, N. Salt Flat 1.04
Darst Creek, Hilbig, Carroll 1.04
Clark, Zoboroski $1.04
Alice, Benavides (N. Sweden), Sun 1.25
Ben Bolt, Clark-Muil, Tom Graham 1.25
Yates (Pecos) 0.85

MAGNOLIA PETROLEUM CO.

(April 1, '41)

Panhandle, Tex.—Same as Humble except Magnolia begins with Below 29 at $0.78.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.70.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.70 & ends with 36 & above at $0.94.

Cass & Panola Cos., Tex.—Below 25 at $0.78, plus 2c per degree of gravity to 40 & above at $1.10.

Mirando, Tex.—Same as Humble.

East Texas $1.15
Darst Creek 1.04
Luling ..... .95
Talco ..... .72
Lytton Springs $1.07
Cleveland-Liberty Co. 1.16
Tomball 1.30

SINCLAIR-PRAIRIE OIL MARKETING CO.

(April 1, '41)

West Texas, Texas Panhandle & Lea Co., N. M.—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.70.

Texas Gulf Coast—Same as Humble.

East Texas $1.15
Eddy Co., N. M. ..... .84
Long Lake, Tex. $1.13

STANOLIND OIL PURCHASING CO.

(April 1, '41)

Clinton, Tex.—Same as Humble, Tex. Gulf Coast except Stanolind begins with Below 21 at $0.98.

Fairbanks, N. Houston & Rosslyn Tex.—Same as Humble Dickinson schedule.

E. Texas $1.15
Satsuma & Tomball, Tex. $1.30

STANOLIND OIL & GAS CO.

(April 1, '41)

W. Beaumont, Jefferson Co., Tex.—Same as Humble Tex. Gulf Coast.

Spindletop, Jefferson Co. & High Island, Galveston Co., Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $0.98.

Hendrick & Henderson, Winkler Co., Tex.—Same as Humble Panhandle except Stanolind begins with Below 26 at $0.72.

THE TEXAS CO.

(March 29, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco begins with 23 & below at $0.68 and ends with 36 & above at $0.94.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.26.

Duval-Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.11.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.16.

East Texas $1.15
Darst Creek, Tex. 1.04
Hockley & Cochran Cos., Tex. ..... .77
Cass Co., Tex. $1.10
Conroe, Tex. 1.33

SHELL OIL CO., INC.

(March 29, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $0.94.

Fisher Co., Tex.—Same as Humble W. Centra Texas except Shell begins with Below 25 at $0.76.

East Texas $1.15
Livingston area, Polk Co., Tex. 1.15
Pecos Co., Tex., except Yates Shallow pool $0.85
Pecos Co., Yates Shallow pool ..... .72

CONTINENTAL OIL CO.

(Mar. 29, '41)

Carson & Hutchinson Cos., Tex.—Same as Humble Panhandle except Continental begins with Below 29 at $0.78.

Mirando, Tex.—Same as Humble except Continenta begins with Below 21 at $0.95.

Wade City, Tex.—Same as Humble Refugio except Continental begins with Below 21 at $1.00.

Clara Driscoll, Tex.—Same as Humble Refugio except Continental begins with Below 21 at $1.00 and ends with 30 & above at $1.20.

Alfred & Magnolia City, Tex., $1.15.

Eddy Co., N. M.—Below 29 at $0.68, plus 2c per degree of gravity up to 40 & above at $0.92.

PAN AMERICAN PIPE LINE CO.

(Apr. 1, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $0.98.

East Texas $1.15
Cayuga (Anderson, Freestone & Henderson Cos., Tex.) ..... .85

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S.O. California, April 24, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga
14-14.9	....	$0.63	....	....	$0.65	....	$0.65	....	$0.66	$0.65	$0.65	$0.67	....	....	....	....	....	$0.68	$0.68	$0.68
15-15.9	....	.64	....	....	.68	$0.70	.65	....	.67	.65	.66	.67	....	....	....	....	....	.68	.68	.68
16-16.9	....	.65	$0.73	....	.70	.73	.66	....	.69	.66	.68	.67	....	....	....	....	....	.68	.68	.68
17-17.9	....	.68	.75	....	.73	.76	.68	....	.70	.68	.71	.67	....	....	....	....	....	.68	.72	.68
18-18.9	$0.74	.71	.77	....	.75	.79	.71	....	.72	.71	.74	.67	....	....	....	....	....	.72	.75	.68
19-19.9	.78	.75	.80	....	.79	.82	.75	....	.75	.73	.77	.68	....	....	....	....	$0.68	.75	.78	.68
20-20.9	.82	.80	.84	....	.83	.86	.79	....	.79	.76	.81	.70	....	....	....	....	.70	.79	.81	.70
21-21.9	.86	.85	.88	....	.87	.89	.82	....	.84	.79	.85	.74	....	....	....	....	.73	.84	.84	.73
22-22.9	.90	.89	.91	$0.77	.91	.92	.86	....	.88	.83	.89	.78	....	....	....	....	.76	.88	.87	.77
23-23.9	.94	.93	.94	.83	.94	.95	.89	....	.93	.88	.93	.82	....	....	....	....	.80	.93	.90	.80
24-24.9	.97	.97	.98	.88	.98	.98	.93	....	.97	.92	.97	.86	$0.93	....	....	....	.84	.97	.93	.83
25-25.9	1.01	1.02	1.02	.94	1.02	1.01	.97	....	1.00	.96	1.01	.90	.96	....	....	....	.88	1.01	.95	.86
26-26.9	1.05	1.06	1.05	.99	1.05	1.04	1.01	....	1.03	1.01	1.05	.94	1.00	....	....	....	.91	1.06	.98	.89
27-27.9	1.09	1.10	1.08	1.04	1.09	1.08	1.04	....	1.07	....	1.09	.98	1.04	....	....	....	.95	1.10	1.01	.92
28-28.9	1.13	1.14	1.11	1.08	1.12	1.11	1.07	....	1.10	....	....	1.01	1.07	$1.01	....	....	.99	1.14	1.04	.95
29-29.9	1.16	1.17	....	1.13	1.15	1.14	....	$1.10	....	....	....	1.05	1.11	1.05	....	....	1.02	1.19	1.06	.97
30-30.9	1.20	1.21	....	....	1.19	1.17	....	1.15	....	Elwood	....	1.08	1.15	1.09	$0.95	$1.03	1.05	1.23	1.09	1.00
31-31.9	....	....	....	....	....	1.20	....	1.19	....	Terrace	....	1.12	1.18	1.13	.99	1.06	1.09	....	....	1.02
32-32.9	....	....	....	....	....	....	....	1.24	....	F.o.b. Ship	....	1.16	1.22	1.17	1.02	1.09	1.12	....	....	1.05
33-33.9	....	....	....	....	....	....	....	1.28	....	$1.19	....	1.20	....	1.21	1.05	1.12	....	....	....	1.07
34-34.9	Kettleman Hills			....	....	....	....	1.32	....	1.23	....	1.25	....	1.25	1.09	1.15	....	....	....	1.10
35-35.9	....	1.19	....	....	....	....	....	....	....	1.26	....	1.30	....	....	1.12	1.18	....	....	....	....
36-36.9	....	1.23	....	....	....	....	....	....	....	....	....	1.34	....	....	1.16	1.21	....	....	....	....
37-37.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.50	....	....	....	....	....	....	....	....

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.75; 21-21.9, $0.79; 22-22.9, $0.82.
Wheeler Ridge: 22-22.9, $0.71; 23-23.9, $0.74; 24-24.9, $0.77.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.68.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, Apr. 1, '41

Gravity'	Atlanta, Ark. et al.	Caddo, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$0.98	$1.08	$1.10	$1.20	$1.20	....
39-39.9	.96	1.06	1.08	1.18	1.18	....
38-38.9	.94	1.04	1.06	1.16	1.16	....
37-37.9	.92	1.02	1.04	1.14	1.14	....
36-36.9	.90	1.00	1.02	1.12	1.12	....
35-35.9	.88	.98	1.00	1.10	1.10	....
35 & above	....	....	....	....	....	$1.26
34-34.9	.86	.96	.98	1.08	1.08	1.24
33-33.9	.84	.94	.96	1.06	1.06	1.22
32-32.9	.82	.92	.94	1.04	1.04	1.20
31-31.9	.80	.90	.92	1.02	1.02	1.18
30 & below	....	....	....	....	....	1.16
30-30.9	.78	.88	.90	1.00	1.00	....
29-29.9	.76	.86	.88	.98	.98	....
28-28.9	.74	.84	.86	.96	.96	....
27-27.9	.72	.82	.84	.94	.94	....
26-26.9	.70	.80	.82	.92	.92	....
25-25.9	.68	.78	.80	.90	.90	....
Below 25	....	.76	.78	.88	....	....
24-24.9	.66	....	....	....	.88	....
23-23.9	.64	....	....	....	.86	....
22-22.9	.62	....	....	....	.84	....
21-21.9	.60	....	....	....	.82	....
Below 21	.58	....	....	....	.80	....

Atlanta schedule includes Buckner, Magnolia, Village & Schuler (Jones Sand), Ark.

Caddo schedule includes De Soto, Sabine, Fouke, Homer, Miller Co., & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake).

Bunkie schedule includes Eola & Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour) $1.05
Heavy Smackover Crude ..... .76
Cotton Valley Distillate 1.20
Cotton Valley (Holloway Sand Crude) 1.15

(Continued in next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (Apr. 1, '41)

Iowa District, Ia.

Below 18	$0.80	23-23.9	$0.94	29-29.9	$1.09	
18-18.9	.82	24-24.9	.97	30-30.9	1.11	
19-19.9	.84	25-25.9	1.00	31-31.9	1.13	
20-20.9	.86	26-26.9	1.03	32-32.9	1.15	
21-21.9	.88	27-27.9	1.05	33-33.9	1.17	
22-22.9	.91	28-28.9	1.07	34 & above	1.19	

Roanoke District, La.

Below 18	$0.75	23-23.9	$0.89	29-29.9	$1.04	
18-18.9	.77	24-24.9	.92	30-30.9	1.06	
19-19.9	.79	25-25.9	.95	31-31.9	1.08	
20-20.9	.81	26-26.9	.98	32-32.9	1.10	
21-21.9	.83	27-27.9	1.00	33-33.9	1.12	
22-22.9	.86	28-28.9	1.02	34 & above	1.14	

Black Bayou & White Castle Districts, La.—Same as Iowa District, except Black Bayou, etc. begins with Below 20 at $0.84.

Gibson field, Terrebonne Par, La. $1.09
Happytown field, St. Martin Par., La. 1.05

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Apr. 1, '41) $1.05

Posted by Continental Oil Co. (Apr. 1, '41)

Tepetate, La. $1.08
Ville Platte, La. 1.10
Lake Arthur, La. 1.08

Abbeville, La.

Below 36	$0.97	37-37.9	$1.01	39-39.9	$1.05	
36-36.9	.99	38-38.9	1.03	40 & above	1.07	

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (Sept. 12, '40)

(Prices FOB producer's tankage)

33-33.9	$1.08	44-44.9	$1.30	55-55.9	$1.52	
34-34.9	1.10	45-45.9	1.32	56-56.9	1.54	
35-35.9	1.12	46-46.9	1.34	57-57.9	1.56	
36-36.9	1.14	47-47.9	1.36	58-58.9	1.58	
37-37.9	1.16	48-48.9	1.38	59-59.9	1.60	
38-38.9	1.18	49-49.9	1.40	60-60.9	1.62	
39-39.9	1.20	50-50.9	1.42	61-61.9	1.64	
40-40.9	1.22	51-51.9	1.44	62-62.9	1.66	
41-41.9	1.24	52-52.9	1.46	63-63.9	1.68	
42-42.9	1.26	53-53.9	1.48	64 & over	1.70	
43-43.9	1.28	54-54.9	1.50			

Absorption Gasoline (Jan. 5, 1938)

90% Rec., 20 lb. Reid v.p. $1.94
90% Rec. 17 lb. Reid v.p. $2.08

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (Oct. 11, '38, except Tensleep Feb. 1, '41, and Frannie Light, Grass Creek Heavy, Hamilton Dome, & Iles Apr. 1, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29	$0.86	32-32.9	$0.94	36-36.9	$1.02	
29-29.9	.88	33-33.9	.96	37-37.9	1.04	
30-30.9	.90	34-34.9	.98	38-38.9	1.06	
31-31.9	.92	35-35.9	1.00	39-39.9	1.08	
				40 & above	1.10	

Wyoming:		Wyoming:	
Tensleep Crude	$0.6515	Grass Creek Light	$0.90
Frannie Light	.65	Grass Creek Heavy	.45
Frannie Heavy	.42	Elk Basin	.90
Hamilton Dome	.40	Iles, Colo.	.97

Posted by S. O. Indiana (June 5, '39)

Lance Creek, Wyo. $0.77

Posted by Ohio Oil Co. (Oct. 11, '38)

Elk Basin, Wyo. $0.90
Grass Creek, Wyo. Light ..... .90
Rock Creek, Wyo. (April 1, '41) 1.05
Lance Creek, Wyo. (April 1, '41) ..... .82
Dry Creek, Mont. ..... .92
Sunburst, Mont. (Nov. 16, '37) ..... .90

Posted by Continental Oil Co. (April 1, '41)
Ft. Collins & Wellington, Col.

Below 29	$0.86	32-32.9	$0.94	36-36.9	$1.02	
29-29.9	.88	33-33.9	.96	37-37.9	1.04	
30-30.9	.90	34-34.9	.98	38-38.9	1.06	
31-31.9	.92	35-35.9	1.00	39-39.9	1.08	
				40 & above	1.10	

Canon City & Florence, Col.	$0.95	Big Muddy, Wyo.	$0.98
Cat Creek, Mont.	1.15	Lance Creek, Wyo.	.82

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Positions Wanted

Sales and sales promotion executive desires new connection. 20 years experience in southwestern sales work: general manager substantial marketing company and assistant salesmanager independent refinery. Address inquiries to Box No. 891, N.P.N.

Wanted to Buy

A late model 2,000 gallon tank mounted on a semi-trailer. Must have two or more compartments and must be in good condition. Will pay cash. Red Head Oil Company, Wooster, Ohio.

Classified Rates

"For Sale," "Wanted to buy," "Help Wanted," "Business Opportunities," "Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00 per insertion.

"Position Wanted"—5 cents a word Minimum charge $1.00 per insertion.

Advertisements set in special type or with border—$4.00 per column inch.

Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

No agency commission or cash discounts on classified Advertisements.

For Sale

One 1024 gal., four compartment Fruehauf Trailer and Heil Tank, complete with fifth wheel and BK brakes. Address inquiries to Jacox Oil Corp., Belleville, Mich.

Gas transport outfit:—1937 Butler 4,000 gallon 6-compt. semi-Trailow-tank, connected to 1939 International DR70 tractor, Westinghouse brakes. Operating daily. Good condition. Bargain. Inquire Box No. 892, N.P.N.

For Sale

1—3000 gallon Aluminum skirted Heil tank, on 1934—7½ ton Diamond T—10 wheel truck, 2 live axles, 3" Pump and motor completely overhauled with new cylinder sleeves, trailer hook and hand air brakes. Price . . . . $1200.00.

1—1540 gallon two compartment tank on 4 wheel trailer. Price . . . . $400.00.

1—1929 Atterbury with three compartment 1218 gallon skirted tank, power take off and side mounted horizontal hose reel. Price . . . . $300.00. Address inquiries to Gordon McKay, Niagara Falls, N. Y.

Professional Services

ROYAL E. BURNHAM
Attorney-at-Law
Patent and Trade Mark Practice Exclusively
511 Eleventh Street, N. W.
Washington, D. C.

GEORGE A. BURRELL
Petroleum and Gas Engineer
Design Construction Reports
Suite 1909,
20 Pine Street **New York City**
1936-42 Fifth Ave. **Pittsburgh, Pa.**

ANTI-KNOCK VALUES DETERMINATIONS
The Gray Industrial Laboratories
Chemists and Engineers
Specialists on Petroleum Products
961-976 Frelinghuysen Ave.
NEWARK, N. J.
Telephone Bigelow 3-4020

PHOENIX CHEMICAL LABORATORY
An Exclusive Petroleum Testing Laboratory
Equipped For All Known Tests & Research in Petroleum Products
3953 Shakespeare Ave., Chicago
Telephone—Spalding 3578

ADVERTISERS' INDEX

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions.

Acheson Colloids Corp.
American Can Co.
American Flange & Mfg. Co.
American Grease Stick Co.
American Machine & Metals, Inc.
American Telephone & Telegraph Co.

Badger & Sons Co., E. B.
Blackmer Pump Co. 34
Bowser Co., S. F. 23
Bradford Oil Refining Co.
Brodie Co. Inc., Ralph N.
Brunner Mfg. Co.
Buckeye Iron & Brass Works
Butler Manufacturing Co.

Champion Spark Plug Co.
Chevrolet Motor Division, General Motors Sales Corp. 29
Chicago Bridge & Iron Co.
Cincinnati Advertising Products Co.
Cities Service Oil Co.
Columbian Steel Tank Co.
Continental Can Co.
Crown Can Co.
Curtis Pneumatic Machinery Co.

Davidson Enamel Company
Dayton Pump Co. 21
Dodge Division, Chrysler Corp.
Du Pont de Nemours & Co., E. I.

Erie Meter Systems, Inc. Inside Front Cover
Ethyl Gasoline Corp. 35

Farrell Mfg. Co.
Fleet-Wing Corp.
Ford Motor Co.
Freedom Oil Co.
Fruehauf Trailer Co.

General American Transportation Corp. 30
General Motos Truck & Coach Division 25
Gilbert & Barker Mfg. Co. Outside Back Cover
Goodall Rubber Co. 36
Goodyear Tire & Rubber Co.
Graver Tank & Mfg. Co., Inc.
Greyhound Oil Co.
Gulf Oil Corp.

Heil Co.
Humble Oil & Refining Co.

International Harvester Co.

Kellogg Division, American Brake Shoe & Foundry Co.
Kidde, Walter & Co., Inc.

Leland Electric Co.

McDonald Mfg. Co., A. Y.
Mack Mfg. Co. Inside Back Cover
Master Electric Co.
Mixing Equipment Co., Inc. 37
Morrison Bros.
Morton Salt

National Petroleum News
National Pumps Corp.
Neptune Meter Co.
New York Lubricating Co.

Ohio Oil Co., Inc.
Overhead Door Corp.

Pawling Refining Co.
Pennsylvania Grade Crude Oil Association 27
Pennsylvania Petroleum Products Co.
Pennsylvania Rubber Co.
Philadelphia Valve Co.
Phillips Petroleum Co. 31
Pittsburgh Equitable Meter Co.
Pure Oil Co.

Quaker State Oil Refining Co.

Reeves Brothers
Republic Oil Co.
Roper Corp., Geo. D. 36

Sani-Flush (The Hygienic Products Co.)
Service Station Equipment Co.
Shell Oil Co. Inc.
Sinclair Refg. Co., Inc.
Smith Meter Co.
Skelly Oil Co.
Socony-Vacuum Oil Co.
Standard Steel Works
Sun Oil Co.

Texaco Development Corp. 33
Thornton Tandem Co.
Tokheim Oil Tank Co.

Universal Oil Products Co. 11
U. S. Industrial Chemical Co.

Viking Pump Co. 32

Westinghouse Electric & Mfg. Co.
Wheeling Corrugating Co.
White Motor Co.
Witte Engine Works

· PERSONALS ·

"Charlie" Weber and **"Bill" Connell,** New York, formerly with David C. Reid Co., opened the doors of their new firm, Charles R. Weber Co., on May 5 on the 20th floor of their old stamping ground, 630 Fifth Avenue. The new partners have a total of 21 years experience in oil and tanker brokerage.

* * *

Martin B. Chittick, Chicago, manager of specialty and technical sales for Pure Oil Co., has been released by the company for service in the chemical warfare branch of the U. S. Army. Mr. Chittick saw service in the first World War and holds rank of Lieutenant-Colonel in the reserves. He started with Pure in 1922.

Stuart Grant, member of Pure's sales promotion department in Chicago, left recently to assume active duty as a captain in the Signal Corps at Wright Field, Dayton, Ohio.

* * *

Norval F. Myers has taken up new duties as assistant manager of the Process Division of the "Esso" Laboratories at Bayway, N. J. A graduate of Beloit College, Mr. Myers received his master's degree in physical chemistry at Princeton University in 1925 and took graduate work at Massachusetts Institute of Technology. From there, he became associated with Union Oil Co. of California where for the past 15 years he headed all refinery operations and technical work.

* * *

Former newspaper man and more recently assistant advertising manager for Standard Oil Co. (Indiana), **R. C. McKee** left last week for the Great Lakes Naval Training Station, where he takes up duties as a public relations officer. In this capacity, he will work as a writer and contact man in relations with newspapers and other publications in the Chicago area.

* * *

L. E. McMunn J. J. Conry H. F. Miller George Yandell

Completing 40 years of service with Standard Oil Co. of New Jersey subsidiaries, **J. J. Conry,** Tulsa, retiring president of Carter Oil Co. is shown here receiving a set of golf clubs from Carter executives and associates. Presentation speech was made by **H. F. Miller,** Tulsa, Carter director and head of the company's marketing department. On Mr. Conry's right is **Miss Lou Ellen McMunn,** runner-up for the title "Miss Oklahoma".

After 40 years and 5 days of service, the retiring president could be found nowhere. But Carter's switchboard operator told NPN he was on his way to the Kentucky Derby. Those golf clubs were probably part of his luggage.

H. H. Anderson R. B. High

R. B. High, New York, has been appointed special Washington representative for Shell Union Oil Corp. and affiliated companies. With Shell 27 years, Mr. High has been vice-president of Shell Pipe Line Corp. for the past 2 years and was previously operating manager of 3 Shell refineries.

Succeeding Mr. High as vice-president of Shell Pipe Line Corp. is **H. H. Anderson,** who started with Shell in 1916 as an oil worker in the Coalingua field of California. During the next several years, Mr. Anderson participated in a great amount of company organization work which brought him in contact with all phases of the company's activities in this country and Mexico. He was elected a vice-president in 1933 and since that time has been in complete control of Shell's personnel activities east of the Rockies. During Temporary National Economic (Monopoly) Committee hearings on employment and working conditions, Mr. Anderson was oil industry witness.

* * *

V. M. Skinner, sales manager of Mid-Western Refineries, Inc., announces the move of Mid-West's executive offices from Alma to Grand Rapids, Mich. at the location of the old Imperial Refining Co. taken over by Mid-Western some time ago.

* * *

D. G. Gill

D. G. Gill, Cleveland, has been placed in charge of advertising and sales promotion activities of National Refining Co. Before joining National in March, 1940, Mr. Gill was with the advertising department of Procter & Gamble, Cincinnati, for several years.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

REFINING INDUSTRY Aviation gasoline of 100-octane number will comprise nearly 40% of the increase in gasoline capacity of refineries by new construction during 1941, it appears from replies to a questionnaire of NATIONAL PETROLEUM NEWS.

Of 160 refiners, representing 265 U. S. refineries, who supplied data, 58 refiners, representing 111 refineries, reported plans for increasing their 100-octane gasoline capacity by an aggregate of 10,800 barrels per day. Other motor fuel capacity to be added this year by these refiners totaled 28,000 barrels per day.

Of the remaining 102 companies replying, who represent 154 refineries, most are not planning plant additions during the year. Two or three large companies did not contribute to the survey and about 300 more refineries listed by the Bureau of Mines are unaccounted for, but these for the most part are small refineries.

Total refinery construction planned by the 58 refiners in 1941 is close to 200,000 barrels per day of crude oil capacity. This increase represents 10% of the existing crude capacity of these refiners and the increased gasoline capacity, given above, is also nearly 10% of existing gasoline capacity.

During the past year, 1940, the number of refineries in the U. S. changed but slightly, the latest report of the Bureau of Mines shows. Refineries operating Jan. 1, 1941, were 41 less than a year earlier, however, and 60% more refineries were shut down. The total of 136 shut down is less than in 11 of the past 20 years. During the 6-year period from 1922-1927 one refinery was shut down for every two that were operating whereas at the beginning of 1941 the idle refineries made one shut down to three that were operating.

Technical development and advances in refining methods have much to do with survival in the oil refining industry. This is a factor which cannot be measured in a statistical report but it can be read between the lines. The Bureau's first named factor in forcing 50 refineries to close during 1940 was low gasoline prices. To the general public low gasoline prices mean competitive selling or over-supply but in any case the final outcome is restoration of profit or elimination of the competition. Two other factors involved in 1940 shut-downs were competition for crude oil supplies, particularly in Illinois, and the termination of a favorable distributing arrangement for independent plants in the Los Angeles area.

As assurance against a shortage of refined products during 1941, utilization of operating capacity is 15% short of total capacity; about 80% of the idle capacity was in "good shape" Jan. 1; and 141,225 barrels of crude-oil capacity was under construction, half for replacement and half for expansion. This extra capacity adds up to over 1,000,000 barrels a day which could be put into operation on short notice. The idle capacity is not all capable of making gasoline of acceptable specifications, however, and much of it is now located unfavorably, but new construction is taking this into account.

It is interesting to note, year by year, the gains in cracking capacity. During 1940 a gain of 5% was made. The present output of cracked gasoline is reported by the Bureau to be about 850,000 barrels daily. This is 83% of operating capacity and approximately half of the average daily motor fuel production in 1940. Nearly 95,000 barrels daily capacity was added in 1940 and 37,500 barrels daily were retired, the Bureau of Mines reported.

★ ★ ★

"WHITTLED" BEARINGS Reverberations from the attacks on engine design as it affects lubrication, by R. J. S. Pigott at the January meeting of the Society of Automotive Engineers, are still to be heard. The short verbal skirmishes immediately following this critical examination of automotive lubricating systems has been followed by the heavy artillery of the pens of three automotive engineers whose extensive comments are answered fully by the Gulf Research and Development Co. engineer in the S.A.E. Journal for May.

One of the interesting facts brought out in this discussion is that the rate of oxidation of lubricating oil in an engine revolved by a dynamometer without firing is the same as when the engine is firing. Nearly the same oil sump temperature is attained as when an engine is pulling a road load, it was pointed out because "the rate of oxidation is largely dependent on the oil sump temperature." Simple control of sump temperature by an air-blast on the oil pan was suggested, therefore, if this be true. No agreement was reached regarding bearing temperatures as affecting oil deterioration and attempts to question whether bearings actually were hot were turned aside to continue the question of *why* they ran hot although elimination of high bearing temperature was admitted not to be a complete solution to oxidation.

The term "whittled" bearings, which was used at the S.A.E. meeting, was said not to be original with the author but a quotation of an automotive engineer. A Pontiac engineer argued that cadmium bearings did not cause formation of acids in the oil but merely recorded that fact that acids were being formed. This argument was, of course, answered by repeating one of the main objectives of the criticism of bearing design, namely that high temperature is the villain and should be reduced by design.

Mr. Pigott concluded—and he has the backing in this conclusion of a large number in the oil industry—that "the oil companies have had a good deal dished out to them in the last few years, and it is no surprise, or should it be either, that some time or other they will be in a position to come back with a little in their own defense."

Standard Engine Tests Needed for Motor Oils

ABSTRACT

Rapid development in lubricating oils shows need for standardization in evaluation of motor oils and of engine conditions after engine tests of lubricants. Progress of General Motors and Caterpillar Tractor Co. in standardizing tests, shortening procedures, and reducing costs of engine testing is reported. Unusual success with small, single cylinder engines in LubriZol laboratories is attributed to close control of tests and liberal interpretation of results. Work on standardization of tests expected to lead to evaluation of the effects of various engine operating details and to their closer control. Engines, as well as lubricating oils, will be rated with respect to severity of operating conditions in terms of a standardized heavy-duty lubricating oil.

H. C. Mougey

L. A. Blanc

A. O. Willey

Joseph Moller

C. W. Georgi

Hugh Hemmingway

THE need for standard engine tests for evaluating motor oils as to serviceability and for standard methods of evaluating the conditions of the engine after tests, were emphasized in a symposium on engine testing during the recent semi-annual meeting of the National Petroleum Assn. in Cleveland. H. C. Mougey, General Motors Corp.; L. A. Blanc, Caterpillar Tractor Co., and Hugh Hemmingway, Kendall Refining Co., gave particular attention to this need.

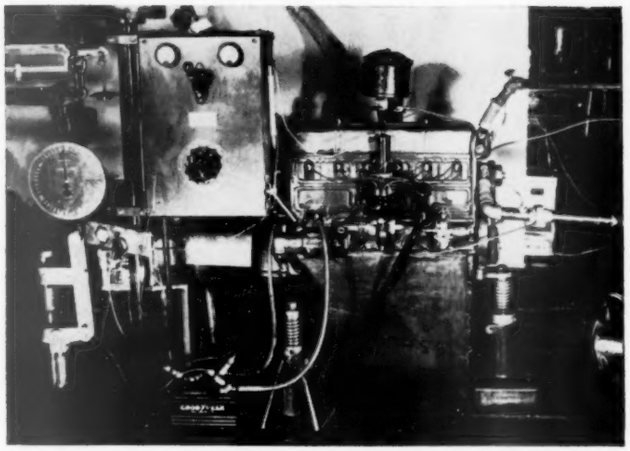
Mr. Mougey said several engine tests are in general use for evaluating oil with respect to oxidation resistance and detergency but that it is desirable, where any particular oil is tested in a number of different laboratories, that the appearance of the engine parts and the oil analyses should check. He added that at present any one laboratory can grade several oils in their relative order of merit, but the appearance of a piston from an oil test made in one laboratory, for example, may not check with that of a piston from a test made on the same oil in another laboratory.

One of the factors affecting this condition is the catalytic action of iron, he said. The amount of iron picked up from an engine by an oil test depends upon such factors as how thoroughly the engine has been run-in, how long since the engine was overhauled and how long since the piston rings were changed, how the engine was cleaned prior to the test, etc. These and other factors are being studied intensively and, as soon as these details are worked out, it should be possible to secure check tests in any laboratory which follows the necessary test conditions, and any oil may be evaluated in respect to eight properties listed below under detergency and resistance to oxidation, he concluded.

Lists 4 Engine Tests

Among present engine tests, Mr. Mougey named the 4 which are shown in the following table.

He said the properties of the oils being tested are the same in all the test procedures, i.e. detergency and oxidation resistance, but to different degrees. "Under the conditions chosen, the Caterpillar 1000-hour and 480-hour tests stress detergency with minor importance given to oxidation resistance. The Detroit diesel 500-hour test (using Model 71 G.M. diesel) also stresses detergency, although to a much less extent, but the property of oxidation resistance



A 1941 Chevrolet test engine equipped with two copper-lead connecting rod bearings

is emphasized to a greater degree. The Chevrolet 67-hour test pays little attention to detergency but stresses oxidation resistance."

It was explained that the terms detergency and oxidation resistance were used broadly to cover a number of factors involved in lubrication failure.

Thus under detergency tests he included:

1. Ring-sticking.
2. Carbon formation on top piston land.
3. Soot, etc., sticking to engine parts.

Under resistance to oxidation he included:

4. Viscosity increase.
5. Formation of sludge or "coffee grounds."
6. Formation of varnish.
7. Formation of acids.
8. Corrosion of alloy bearings.

Since the Chevrolet test is much shorter and cheaper than the other two tests, and since it measures resistance to oxidation, which is of greater importance in the average gasoline engine than detergency, Mr. Mougey said it seems desirable to concentrate work on this test so that the various engine laboratories can all evaluate oils in respect to the properties affected by oxidation.

Calibration of Engine Types

The Caterpillar test was said to be the best standardized test for detergency but requires a long time and is expensive to run. Since work is being done to develop a shorter and less expensive test, he hopes that this shortening will make it possible for all laboratories to evaluate oils in respect to detergency and resistance to oxidation. He added that it should be possible to calibrate different types of engines, operated under different service conditions, and know the kinds of oils that will give the best results under these various operating conditions. Before this can be done satisfactorily, he said, it is necessary that the effects of various operating details be appreciated so that these factors can be controlled closely enough to permit tests made in different laboratories to check with each other.

Mr. Blanc described the development of procedures in Caterpillar's laboratories which led to the present test procedures. He said their first tests were run the full length of time required of a tractor in service, i.e. up to 4000 hours. Their experience enabled reduction of the time of test to 480 hours, with results interpreted in terms of what would be expected after 4000 hours of operation. In the course of this work, other tests were developed using a cross-head engine in which the cylinder lubricant was separated from the crankcase oil. This test accelerated deterioration of the oil and proved to be unsatisfactory. Lauson engine tests are also used but are considered as filter-tests to cull out all but those oils which might prove satisfactory in the larger engine test for longer hours.

Table 1

	Caterpillar* (Single cyl. test eng.) 1000 hr. test	Caterpillar* (Single cyl. test eng.) 480 hr. test	Model 71 G.M. Diesel (3-, 4-, or 6 cyl.)	Chevrolet (6 cylinder)
R.P.M.	850	1000	2000	3150
Load (B.H.P.)	16.7	19.8	27 per cyl.	30
Crankcase oil	130°F.	145-150°F.	230°F.	280°F.
Jacket water (outlet)	170-180°F.	175-180°F.	180°F.	200°F.
Oil consumption	....	....	.06 lb/hr/cyl.	1qt/500 mls.
Bearings	Babbitt	Babbitt	copper-lead	Babbitt (with one copper-lead)
Length of test	1000 hr.	480 hr.	500 hr.	4000 mi. (67 hr.)
Oil changes	60 hr.	120 hr.	none	none

*Both the former 1000 hour run and the present 480 hour run are tabulated.

Caterpillar Uses 3 Tests

The Caterpillar laboratory uses three principal tests now, Mr. Blanc said. The first is a special ring-sticking and endurance test on a 5¾-in. bore single-cylinder diesel test engine, lasting 1020 hours. The engine is broken in with a new piston and liner assembly, and operated at 850 rpm., 75 psi. B.M.E.P., with oil changes every 60 hours. Inspections are made at 480 hours and at the conclusion of the test. Particular attention is paid to ring conditions and deposits, to scratching of rings and skirt, and scuffing of the piston head.

The second test is a series of three high-load tests of 3-hours duration on a specially fitted 5¾-inch bore, single-

Contents . . .

REFINING TECHNOLOGY

May 14, 1941

Standardization of engine tests for lubricating oils is shown to be needed by petroleum and automotive laboratories at National Petroleum Assn. symposium on engine testing. Present stage of development told by authorities in both industries R-146

S.A.E. committee accepts two engine test procedures as tentative standards for heavy-duty motor oils until improvements can be made R-150

Demand for iso-butane and iso-pentane for manufacture of high octane gasoline being supplied by natural gasoline manufacturers. Equipment for separating these constituents of natural gasoline and its operation are described at N.G.A.A. meeting R-153

Advertisers' Index ..... 47 & R-158

Other Editorial Index 1

cylinder diesel test engine. A short 20-minute run-in period is followed by operating 3 hours at 900 rpm. and constant Btu. input into the cylinder. The piston and liner are then examined for scratching.

The third test is a 240-hour bearing corrosion and deposition test on a D-4400 4-cylinder diesel test engine. The engine is operated in a hot-house at 1400 rpm. with an air temperature to the radiator of 125° F., a load of approximately 32 B.H.P. and a water outlet temperature of 200° F. so as to maintain an oil-to-bearing temperature of 210° F. Oil is changed halfway through the test. Loss of weight of the bearings is determined and evidences of corrosion are sought with a microscope.

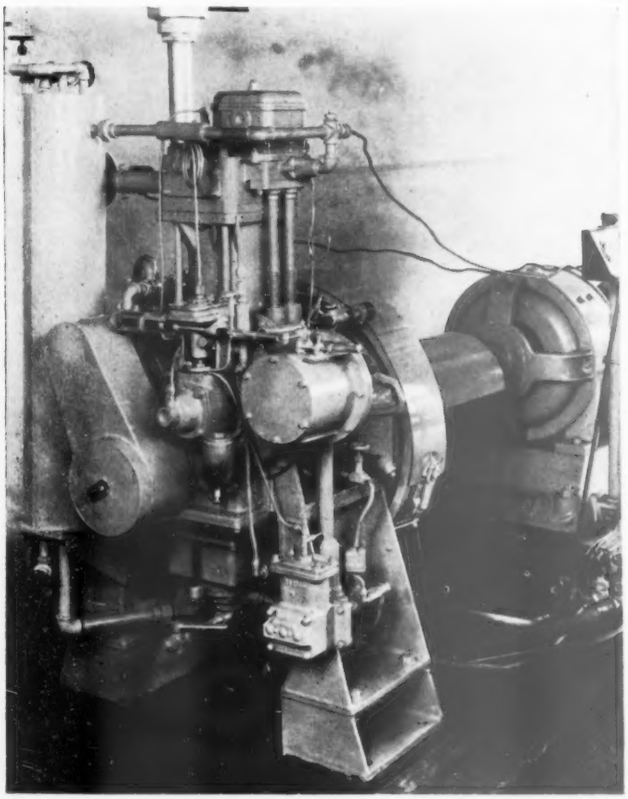
When the lubricant passes these tests it is ready for test in the field in several tractors and power units, on operations selected to provide a cross section of field operating conditions. Here it must perform 1000 hours.

Test No. 1 is changed somewhat when an additive oil is tested. An oil cooled type piston is used and the engine is operated at 1000 rpm. for 480 hours. This is not used for SAE 10 oils, nor are field tests required after the laboratory engine tests are completed.

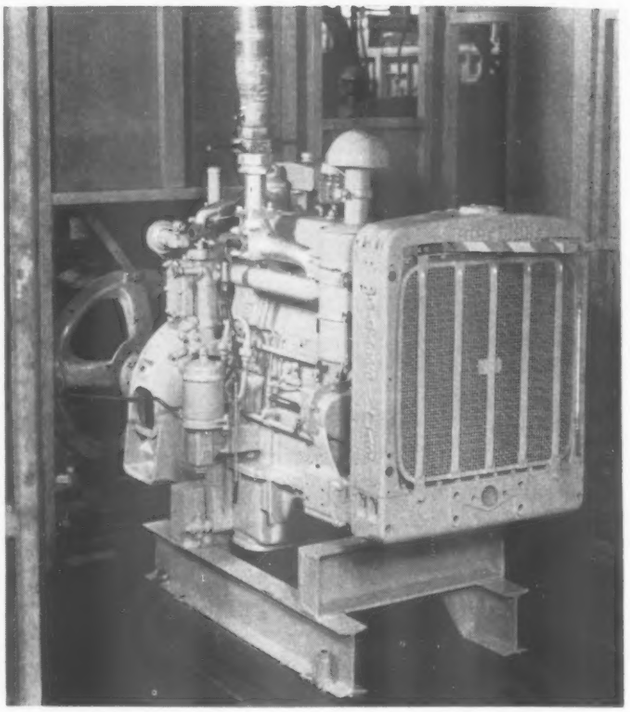
Several interested oil companies have engines for running this test and are using an 85 psi. B.M.E.P. instead of 75. When tests are completed it is hoped this test will replace a 1000-hour test on a regular schedule. Work is also in progress to shorten the third test to 120 hours instead of 240 hours.

Prediction Shortens Engine Test

Mr. Blanc emphasized in conclusion that, "when one is testing a lubricant to determine its value under certain conditions which give trouble in service, these conditions should be maintained in the testing laboratory. This is particularly true when service troubles are the result of the nature of the deposits which accumulate in assembly. Attempts to shorten procedures by running tests under accelerated conditions will in the large majority of cases change the nature of such deposits and lead to evaluations which will prove false under service conditions. The best method found by Caterpillar Tractor Co. for shortening test procedures is to learn to predict, at an early stage of such a test, how an engine would appear after 3500 or 4000 hours of operation, or whether it would be able to operate for that length of time before the need for a major overhaul in the reciprocating string becomes excessive."



Single-cylinder diesel test engine standardized by Caterpillar Tractor Co. for testing lubricating oils



The 4-cylinder diesel test engine is operated by Caterpillar in a hot-house at 1400 rpm. with an air temperature to the radiator of 125° F. Oil-to-bearing temperature is maintained at 210° F.

Small Engine Tests Evaluated

A. O. Willey, The LubriZol Co., described the use of small-scale single-cylinder engines for the evaluation of motor oils. He pointed out that the use of full-scale engines in laboratory block tests is as impracticable as the so-called simplified laboratory test methods in conducting all phases of the thorough testing program necessary to the development of an improved product for a given service. The next possibility offering promise as a step towards obtaining performance data on oils in service is the use of small scale engines operated under accuratly controlled conditions and subjected to arbitrarily selected service factors chosen to simulate and accentuate the specific type of service conditions under investigation.

A number of color slides were shown of the engine test set-up and comparisons of pistons after test, with pistons from larger engines in which the same oils had been tested. Mr. Willey stressed the importance of accurate and uniform construction of these engines as well as control of the tests but warned against too close interpretation of results.* The type of test procedure, however, depends upon the service characteristics of the oil to be investigated.

At the beginning of each test, the engine is completely disassembled and thoroughly cleaned. The cylinder bore is checked for wear and a new piston and ring assembly is installed. A new set of alloy bearings is installed in the connecting rod and the engine is built up with new gaskets throughout. Readings of all control items are taken at one-hour intervals and adjustments for speed, air-fuel ratio, and coolant and oil temperatures are made whenever necessary.

Correlation with Full-Scale Engines

In attempting to evaluate the results from test engines of this type, Mr. Willey said the first question to be considered is that of correlation with full-scale engines of conventional design. Unless the short-cut methods and accelerated test procedures can be shown to give results comparable to those experienced with service equipment, the use of these engines as preliminary indicators cannot

*See NATIONAL PETROLEUM NEWS, Sept. 4, 1940, p. R-314.

"TAKE IT UP" with KELLOGG

For speed . . . to save time and money . . . turn to KELLOGG now for the latest petroleum products—aviation fuels—toluene—special lubricating oils, etc.

From design to initial operation you gain the industry's greatest experience in all branches of processing, engineering, construction and operation.

In this way you are certain of a completed unit that will produce exactly the products you need . . . give you the quality and output that assures utmost economy and efficiency.

KELLOGG

THE M. W. KELLOGG COMPANY

JERSEY CITY, N. J. • 225 BROADWAY, NEW YORK
Los Angeles: 609 South Grand • Tulsa: Philtower Building

EUROPEAN REPRESENTATIVE: Compagnie Technique des Petroles
134 Boulevard Haussmann, Paris, France

LICENSING AND CONSTRUCTION AGENTS under United States and foreign patents for: Catalytic Processes for Cracking, Reforming, Dehydrogenation, Alkylation, Desulphurization

- Gasoline Products Company, Inc. . . . . Pyrolytic Cracking
- The Polymerization Process Corporation, Thermal and Catalytic Polymerization
- JUIK Processes . . . . . for Lubricating Oil Refining with Propane and Phenol • Deasphalting • Dewaxing • Solvent Extraction and Acid Treating Plants
- The Gray Processes Corporation . . . . . Clay Treating

Catalytic Cracking Continuous Process

Hydroforming

Catalytic Polymerization

Alkylation

Thermal Cracking

Thermal Polymerization

Thermal Reversion

JUIK Processes for Lubricating Oil Refining

be justified. To form a basis for such a comparison, it was necessary to test representative samples of the same lubricants on full-scale engines, operated under conditions which have also been proved to correspond to field operation. Several of these tests have been developed by engine manufacturers and a considerable amount of reliable data has been accumulated from established test procedures and standardized engines, he said.

Mr. Willey found the use of the small single-cylinder engine as a means of indicating corrosive tendencies of an oil to be equally satisfactory.

In correlating this phase of motor oil testing with service experience, numerous oils showing high bearing corrosion in the field were also tested in the laboratory single-cylinder engines. In more than 800 laboratory tests involving many check runs, he said a remarkable degree of consistency of results as to type and degree of bearing corrosion has been shown.

Having once established this correlation, it is now only necessary to make occasional check runs on reference oils to insure the dependability of the small engines as indicators of motor oil effectiveness. A still further means of correlating laboratory results with service is provided by chassis dynamometer testing and controlled tests on the road.

Small Engine Tests Inadequate

Mr. C. W. Georgi, Quaker State Oil Refining Corp., also discussed the correlation of small engines with full scale engine tests. He found this type of test serves only as a preliminary test. He found difficulty in correlation of the small with large engines, and said the tests can be misleading if the conditions are not set up right. He found that the oils do not oxidize in the same manner as in a conventional engine and he experienced less oil deterioration than in the Chevrolet engine test. He also found the engines did not evaluate detergency like a diesel engine. He concluded, therefore, that even when temperatures were carefully watched there was still not perfect correlation, particularly with respect to detergency, and that these engines cannot be substituted for the large engines. He considered the test more like a laboratory oxidation test.

In the discussion following presentation of papers, J. M. Musselman, Standard Oil Co. of Ohio, verified results as reported by Mr. Willey and indicated that satisfactory correlation of between small engine tests and full size engines had been obtained. A different type of engine is used in the Sohio laboratory than in Mr. Willey's laboratory.

Engines To Be Rated by Oils

Joseph A. Moller concluded in a short paper by himself and Harry L. Moir, both of Pure Oil Co., "that the time is not far off when the characteristics of most of the lubricating oils used for internal combustion engines will in all probability be described by means of controlled, accelerated engine tests, much as other engine materials are now described and that the time is not far off when the quality of engine materials, design and construction will be described by means of, or in terms of, standardized lubricating oils."

With regard to engine testing, he said these tests of lubricating oils have advanced in many laboratories "to the state where the oil is given a rating—by means of rating or scoring the various engine parts after the test, and then compiling an overall rating. There are several systems used, and many give surprisingly satisfactory check ratings for engine part results, hence for the various lubricating oils tested. It is, therefore, but a short step (and a step which has already been taken in some laboratories) to the rating of various types of engines by means of standardized severe or heavy duty lubricating oils, thus expressing the effect of the engine on the oil by means of scoring, or rating, of 'after test' engine parts."

Mr. Moller said, "the fact that petroleum products, both fuels and lubricating oils, are now being recognized as an integral part of engine design, construction, and use is indeed encouraging to the petroleum inlustry." He concluded that, if engines and all their parts are capable of a schedule of highly sustained operating conditions, it is but a question of time before they are so operated. This development of engine parts to withstand more severe operating conditions has been accompanied by development of lubricating oils to the point where today there are commercially available lubricating oils which can, and do, successfully handle engines operating under conditions too severe for straight mineral oils.

* * *

Standardize Engine Tests For Heavy-Duty Motor Oil†

By C. M. Larson*

832

LAST June, when it appeared that test equipment and test procedure of 6 approved engines were required for lubricating oil recognition, it was shown that two basic chemical changes in lubricating oil caused detrimental engine deposits: 1, thermal coking (detergent and dispersing treatment) and 2, oxidation (correction with anti-oxidant or inhibitor. The general feeling was that, regardless of any changes in engine design that might momentarily simplify lubrication problems, the output of engines will be increased to the limits set by the lubricants available.

Those engineers, who have followed the results of recent engine tests that have been run under severe testing conditions in Caterpillar diesels, GMC diesels and Chevrolet gasoline engines, were on a whole impressed with the performance of certain special oils. More recent developments have shown still further advantages in the use of "superior all purpose lubricants" which are non-corrosive, extreme service motor oils, suitable for diesel and gasoline engine, truck and coach service; this by the use of a crankcase lubricant for all types of internal combustion engines.

It has been shown that laboratory inspection tests no longer serve as identification tests or predict performance in service. The difficulty in writing a specification covering such all purpose, extreme service lubricants is an additional problem. Thus, two subcommittees of the Subcommittee B of the SAE Lubricants Division, held several meetings last year. These two subcommittees, one representing the oil group and the other the automotive group, each met separately on January 9, 1941 and then, following these meetings, through a joint meeting adopted the following recommendations:

"1—In principle the committee recognizes the use of engine tests as a criterion for acceptable performance of oil.

2—The committee tentatively accepts the General Motors 71 and the Caterpillar under present recommended procedures for such use with the definite recommendations:

a—that the work on the substituting of the Chevrolet engine for the model 71 diesel, under its present or modified procedure, be expedited by all concerned and that

b—the work towards the shortening of the present Caterpillar procedure be expedited."

Ring Sticking Major Consideration

Since the major consideration in a crankcase oil is to prevent ring sticking, the Caterpillar single-cylinder engine with the high top ring groove temperature operated for 480 hours evaluates an oil under severe service for this factor. The corrosion and lacquering effect are also important considerations and are checked by the GMC 71 diesel engines, as the high crankcase temperature of 230° F. and lead bronze bearings compare lubricants for such properties over 500 hours without draining of the crankcase oil. It is thought that the 1941 Chevrolet test engine equipped with two copper-lead connecting rod bearings (No. 3 and No. 4 cylinders), run at a sump oil temperature of 280° F. for 90 hours, can be substituted for the GMC 71 diesel engine test for crankcase oil stability check for oxidation and corrosion. This latter substitution would simplify engine testing

(*Continued on page R-158*)

*Chief Consulting Engineer, Sinclair Refining Co.

†Presented at the Kansas City Section meeting of the Society of Automotive Engineers April 18, under the title "New Heavy Duty Motor Oils."

SALT TROUBLES...LIQUIDATED

Weirbox, carrying discharge of brine from four Petreco Units at a Mid Continent refinery.

An estimated ten tons of salt per month are discharged from the Petreco Electromatic De-Salter water bleed illustrated above.

Removing the salt in this efficient manner has eliminated coking in the cracking coil, reduced corrosion and scaling, and has permitted the use of temperatures and pressures best suited for desired capacities and yields. You, too, may profit by conditioning your crude charging stock with the Petreco Process. Consultation and salt analysis involve no obligation. Your inquiries will receive prompt attention.

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

General Offices: Los Angeles, California

Gulf Coast Division: Houston, Texas

Eastern Division: Toledo, Ohio

Representatives In Principal Oil Fields and Refining Centers

PETRECO

DE-SALTING DEHYDRATING

Veteran Lubricant Chemist Honored by A.C.S. Section

Dr. Arthur W. Burwell

● Dr. Arthur W. Burwell, vice president and technical director, Alox Corp., has been elected to receive the 1941 Schoellkopf gold medal of the Western New York Section, American Chemical Society. The medal is given in recognition of life-long work in petroleum chemistry and particularly of his production of useful chemicals by the oxidation of petroleum in the liquid phase. These materials include fatty acids, hydroxy acids, lactones, ketones and esters, which are useful as lubricant additives, leather softeners, nitrocellulose plasticizers and polar type rust preventatives.

Dr. Burwell was born in Rock Island, Ill., in 1867, was educated in Cleveland and received his Ph.D. from the University of Strassburg, Germany, in 1892.

While in Germany he studied under a number of the leading chemists of the time, such as Kohlrausch, Rose, Wolff and Bucking, and was honored by Prof. R. Fittig, by being put in charge of his laboratory. Under Fittig, Burwell made important contributions to the knowledge of the constitution of compounds in which oxygen was attached to a long hydrocarbon chain, and he published in Annalen (R. Fittig and A. W. Burwell, 1891, 2, and 3) fundamental work on lactones, those interesting compounds in which a hydroxyl in the beta position rearranges itself to form a long side loop.

Returning to America, he entered the employ of the Standard Oil Co. in Cleveland, Jan. 10, 1893, and was occupied with general refinery problems, pitches, carbon black and lubricating greases.

In 1896 he associated with Elmer O. Sperry in a consulting laboratory, and shortly afterwards built and operated the first oil refinery on the Gulf Coast, operating on the then newly-discovered coastal crude. This refinery later became the nucleus of the Gulf Oil Co. Electrochemistry and minerals separations competed with petroleum for Dr. Burwell's interest during the early part of this century.

Petroleum Oxidation Research

In 1922, Dr. Burwell began experiments in the oxidation of petroleum by air at moderate temperatures and pressures, and in 1925 he began operations on batches of 1000 lbs. or more at Niagara Falls. The increased size of batch, compared with the usual laboratory batch, enabled him to identify materials which were only produced in small percentages, hence a better knowledge of the chemistry of the reactions was obtained.

A composite of many different products, ketones, ester aldehydes and acids, with a strong characteristic odor were produced. It has been found, for instance, that while all the lower molecular weight fatty acids are corrosive to metals, those having eight or more carbon atoms in the chain are actually valuable rust preventives. The separation provides the essential difference between lubricants and rust inhibitors obtained in this way on the one hand, and the products of oxidation in a crankcase on the other.

An important step in the utilization of Dr. Burwell's oxygenated hydrocarbons was his study of the mechanism of lubrication, in which he not only rationalized and brought into one system the work of Hardy, Rayleigh, Langmuir, Wilson, and others, but also perfected a lubricant testing machine by which tests could be made in the broken film stage, thus showing up differences in different oils dependent on their chemical constitution totally apart from viscosity.

This machine, known as a Lubarometer, is characterized by having small rubbing surfaces curved to fit the rotating journal and held in such a way that they could not form a wedge shaped oil film, and by being driven by a small motor which stalls when lubrication fails, thus avoiding scoring. The machine is equipped to control and measure all variables and gives reading in terms of actual power consumption. Using this machine, Dr. Burwell embarked on an extensive series of tests exploring the differences due to composition of various oils and showed the value of certain extracted materials as oiliness agents and aids to lubrication. Development of certain oxidized petroleum extracts and the significance of polar molecules, surface activity, selective adsorption of oil films on metal surfaces were all recognized by the Medal committee along with present commercial utilization of lubricants produced by Dr. Burwell's process.

Dr. Burwell has been a frequent contributor to technical literature and to technical association programs, and holds a number of patents on oxidized petroleum materials and lubricants. NPN has published 5 exclusive articles in the past 5 years by him and J. A. Camelford. He was a contributor to The Science of Petroleum, a 4-volume work published by the University Press, Oxford, England, in 1938 and has contributed to publications of the American Chemical Society.

Presentation of the medal will be made May 20 at Niagara Falls. The medal was named in honor of Jacob F. Schoellkopf, pioneer chemical manufacturer, tanner, and founder of America's first successful aniline dye works, now National Aniline Co.

721.02
751.5

Alkylation Feed Stock Produced In Natural Gasoline Plants*

By H. W. Harts†

ABSTRACT

Increasing demands for high octane motor fuels and resultant installation of processes at refineries requiring isomers in feed stocks, combined to create a demand for iso-butane and iso-pentane which was met by natural gasoline manufacturers. Iso-pentane is a valuable constituent of natural gasoline and has not been isolated as extensively as iso-butane. Iso-butane, formerly a waste product or filler for butane-propane mixtures, suddenly acquired considerable value, therefore.

Expensive equipment with accurate control are necessary since the slightest deviation in tower control may conceivably and easily throw the entire storage off specifications. Installation, operation, cost of equipment, and expected return on investment for the manufacture of iso-butane and iso-pentane are considered here.—Editor.

ABNORMALLY low prices and declining incomes experienced by the natural gasoline industry during the past few years have caused several manufacturers engaged in this phase of the oil business to seek additional revenue through any economically feasible secondary operation connected with the manufacture of the various grades of natural gasoline.

First came propane and butane, the two related products which either were cut separately or in some cases merely considered as a conglomerated overhead, and which were sold for any of the various uses to which are put the liquefied petroleum gases.

As the markets began to absorb these two closely related components the manufacturers sought still additional income by making preparations for the isolation of various isomers which occur in relatively small quantities in practically all natural gas.

Increasing demands for high octane motor fuels, and new manufacturing processes installed by the refiners which necessitated the use of the isomers, combined to create an immediate demand for iso-butane and iso-pentane which was met by the natural gasoline manufacturers.

Iso-pentane, being a valuable constituent of natural gasoline, has not been isolated as extensively as the iso-butane, which previously had been either a waste product or a filler in the butane-propane mixtures.

The iso-butane suddenly acquired a considerable value with a ready market, due to the various new refining processes. The manufacture of this product, however, was not the very simple fractionation necessary in the case of butane and propane. Extremely expensive equipment and accurate control were necessary, so that the return on the investment was not the desirable picture that had been indicated at first glance. This was due not only to the cost of installation and operation of manufacturing equipment, but also to the cost of storage, transportation and testing. The mere fact that the specifications are so exacting necessitates low temperature fractionation on each shipment made, and the slightest deviation in the tower control may conceivably and easily throw the entire storage off specifications.

Iso-Pentane Separation

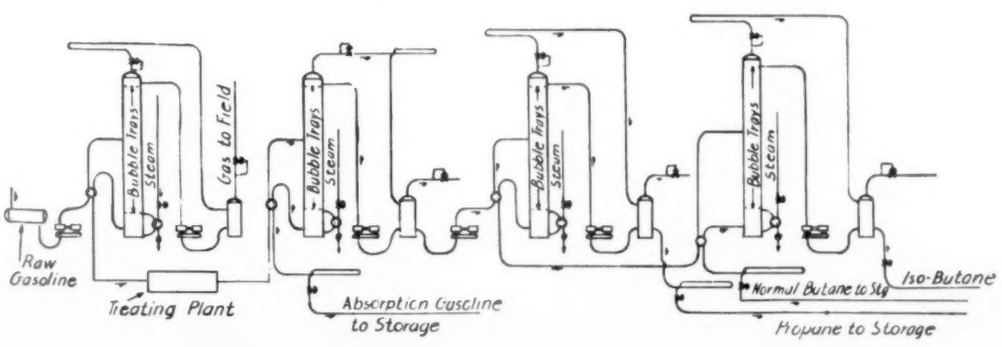
Inasmuch as iso-pentane is less commonly fractionated than iso-butane we will consider that production first. One plant in which data was obtained introduces a raw feed of 100,000 gallons daily to the grade gasoline fractionating tower from which the butanes and lighter are separated from the pentanes and heavier. The pentanes and heavier from the base of tower, having a volume of 30,500 gallons, are pumped to a second fractionating column operating at a pressure of 50 pounds. This consists of two columns each 82 feet high, containing a total of 70 trays and requiring a reflux ratio of 22 to 1 to separate the iso-pentane, with a volume of 5350 gallons as overhead, from the normal pentanes and heavier which leave the base of tower to storage.

Since the iso-pentane that is taken overhead has only a purity of 93.46%, to make a 99% pure product it is necessary to pump this overhead to another fractionating tower operating at a pressure of 100 pounds, 74 feet high and containing 30 trays. This column requires a reflux ratio of 7 to 1 to eliminate the normal butane as overhead product which is returned to the feed to the grade column. The 99% iso-pentane is taken from the base of tower to storage. This debutanizer, or secondary iso-pentane column, is necessary in order not to lose any iso-pentane in the grade column and still manufacture 99% pure iso-

†Warren Petroleum Corporation.

*Presented before the 20th annual convention, Natural Gasoline Assn. of America, April 23-25, 1941, in Dallas, under the title, "Close Fractionation in the Manufacture of Special Products at Natural Gasoline Plants."

FLOW DIAGRAM



Flow diagram of the Salem plant of Warren Petroleum Corp.

Table 1

Condition of Iso-Pentane Column

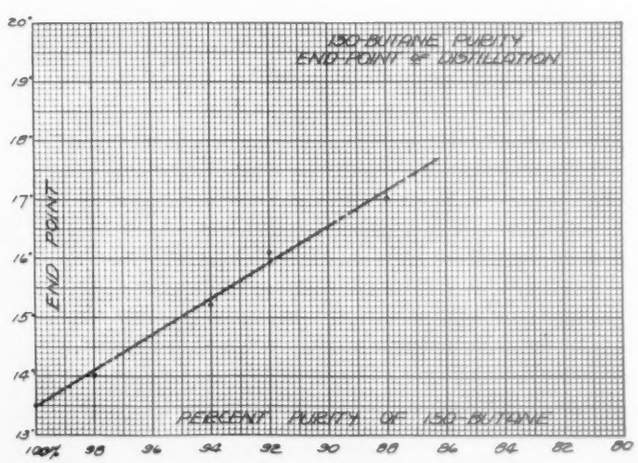
	Grade Column	Iso-Pentane Column	Debutanizer
Size	3′ x 60′	2-5′ x 82′	20″ x 74′
Trays	30	70	30
Operating Pressure	150 lbs.	50 lbs.	100 lbs.
Kettle Temperature	313°	202°	216°
Top temperature	135°	170°	162°
Reflux Ratio	4-1	22-1	7-1
Kettle Surface	500 sq. ft.	230 sq. ft.	100 sq. ft.
Reflux Condenser Surface	4,500 sq. ft.	800 sq. ft.	400 sq. ft.
Steam H. P. Required	300	128	58.6
Feed to Iso-Pentane Column:		**Liquid Volume Per Cent**	
Normal butane		.98 — 300 gals.	
Iso-pentane		19.67 — 6,000	
Normal pentanes & heavier		79.35 — 24,200	
Total		100.00 — 30,500 gals.	
Overhead Product:		**Iso-Pentane Liquid Vol. Per Cent**	
Normal butane		5.61 — 300 gals.	
Iso-pentane		93.46 — 5,000	
Normal pentane		.93 — 50	
Total		100.00 — 5,350 gals.	
Kettle Product:			
Iso-pentane		3.98 — 1,000 gals.	
Normal pentane & Heavier		96.02 — 24,150	
Total		100.00 — 25,150 gals.	
Debutanizer Kettle:			
Iso-pentane		99.00 — 5,000 gals.	
Normal pentane plus		1.00 — 50	
Total		100.00 — 5,050 gals.	

pentane. The overhead, or butane, is returned to the feed of grade column.

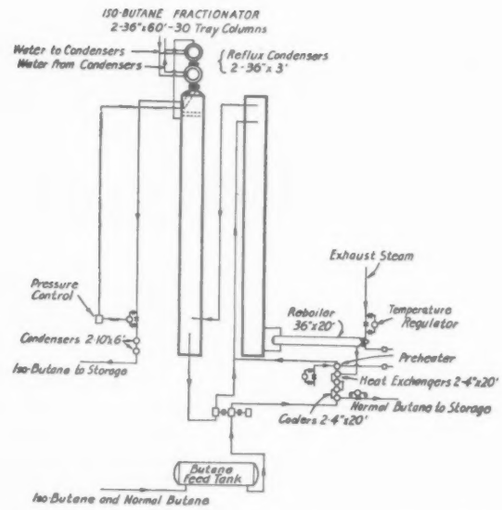
Iso-Butane Separation

Iso-butane is used primarily in the manufacture of high octane gasoline by the process known as alkylation. In this process the normal butane has no effect on the alkylation reaction, but its presence in appreciable quantities is objectionable in that it increases the size of the equipment necessary to produce a given amount of alkylate. Therefore, the natural gasoline manufacturer is confronted with the problem of manufacturing a product as pure as is economically possible. The purer the product, the more desirable to the refiner and therefore the more valuable to the manufacturer.

The fact that a normal butane mixture with a boiling point of 29.6° F., 3° F. under the boiling range of normal butane, indicates 10% in butane, gives an idea of the accuracy necessary in column operation. Therefore, it is obvious that a variation of only 3° in the boiling point would permit the inclusion of 10% of the iso-butane in the base product of the column. Since, in many instances, the feed to the column would not contain much more iso-butane than this, a depression of 3° in the boiling point would mean a loss in production of practically all the iso-butane. Any failure of the temperature controller that would permit the temperature at the base of the column



Effect of end point on the purity of iso-butane



A two-column hook-up for iso-butane separation. Tubular reflux condensers above the columns carry water to cool condensing reflux

to rise above the temperature required by the operating pressure of the column would give results more disastrous since normal butane will be thrown overhead as an impurity to a degree limited only by the heat capacity of the reboiler. Since the reboiler pressure is definitely related to the temperature, it is equally apparent that rigid control of the reboiler pressure is essential. In actual practice, it is desirable to locate the point of control, which actuates the pressure controller, as closely as possible to the point of temperature measurement, which actuates the temperature controller.

In ordinary stabilizer operation, it is usually satisfactory to control the pressure at the top of the column, or even in the reflux tank, but in fractionation of the iso-butane the variations of pressure between the top and bottom of the column are sufficiently large to produce serious deviations in the pressure in the base of the column, if the pressure is held constant at any other point in the system.

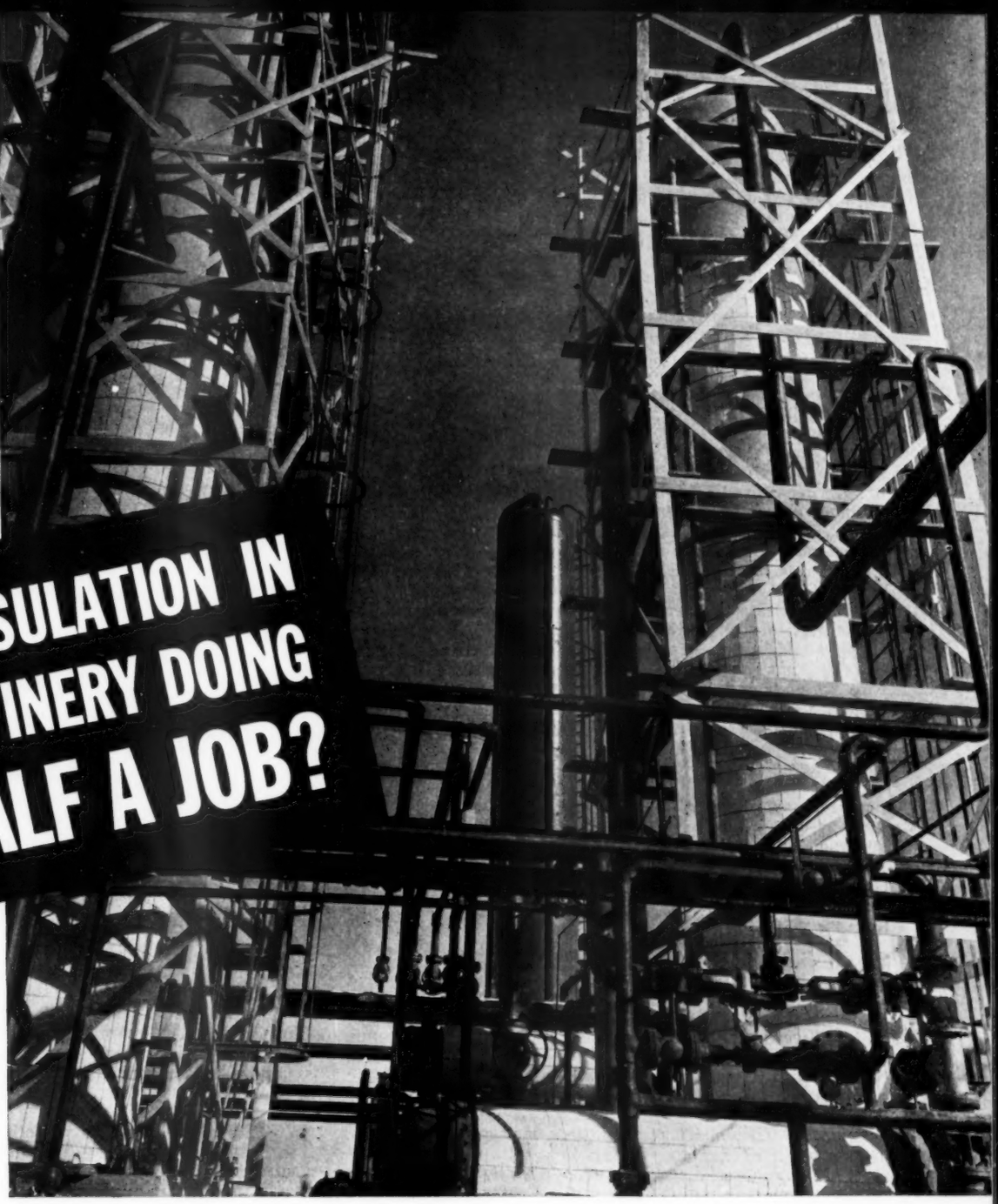
In ordinary stabilizer operation, it is customary to control the pressure of the system by means of a motor valve which releases non-condensable gas from the reflux accumulator tank. In the production of iso-butane as an overhead product where total condensation takes place, there will be no non-condensable gas, and the motor valve which controls the pressure must be located between the tower and the reflux condenser.

Use Flow Controller on Reflux

In ordinary stabilizer operation, it is cnstomary to control the reflux at a fixed rate by means of a flow controller and withdraw the condensed overhead product from the reflux tank by means of level controller. If we apply this same system of control to the iso-butane column we run into serious difficulties in the form of an unstable condition which causes the iso-butane to be produced in a series of cycles with the product badly off specifications during a portion of each cycle. The reasons for this may be apparent from the following: Let us assume for the moment that we have the column in perfect operation, and that the reflux rate, the rate of production of overhead product, and, consequently the reflux ratio, are correct. If for any reason, such a change in composition of feed, the volume of iso-butane passing overhead from the column should decrease there would automatically be an increase in reflux ratio, since the reflux ratio is constant.

This increase in reflux ratio will tend to establish a new set of compositions on the various plates in the tower which are richer in iso-butane. This momentarily decreases the production of iso-butane overhead and the

FOR EVERY TYPE of heated and refrigerated equipment in the oil industry, there is a Johns-Manville Insulation that keeps efficiency high . . . operating costs low. Shown at the right is a typical application of J-M 85% Magnesia—one of thousands of such installations now in service throughout the world.



IS THE INSULATION IN YOUR REFINERY DOING ONLY HALF A JOB?

ALMOST any insulation will save you *some* money. But to get fuel and refrigeration costs down to rock bottom —and to keep them there—the insulation you use should not only provide maximum efficiency to begin with, but, most important, *it must maintain its original high insulating efficiency in service.*

To deliver such performance over long periods of time, here are a few of the exacting requirements that a refinery insulation must meet: It must remain unaffected by the temperatures to which it is subjected . . . it must be able to withstand refinery service without structural damage or impairment of its insulating effectiveness . . . outdoors it must be of such nature and so applied as to provide maximum protection against weather. And above all, it must not disintegrate or compress or lose form during the life of the equipment to which it is applied.

Because they meet these requirements, Johns-Manville Insulations are used wherever low *annual* cost of insulation is the yardstick. Refineries throughout the world depend upon them to keep operating costs permanently low and to help assure accurate temperature control.

Whenever you have an insulation problem, you won't go wrong by giving us an opportunity to recommend the most economical material and the most economical thickness for the particular job. No obligation, of course. Johns-Manville, 22 East 40th Street, New York, N. Y.

Johns-Manville INDUSTRIAL INSULATIONS

For every temperature . . . for every service . . .

SUPEREX . . . 85% MAGNESIA . . . ASBESTO-SPONGE FELTED . . . SIL-O-CEL C-22 BRICK . . . JM-20 BRICK . . .
SIL-O-CEL C-3 CONCRETE . . . NO. 450 CEMENT . . . ROCK CORK . . . MARINITE

reflux ratio increases proportionally. This process continues until we have no overhead product and the condition of total reflux exists, all iso-butane present in the feed being consumed in enriching the composition of the plates and displacing normal butane, which is forced out of the column as base product. After due time the plate compositions are established which are consistent with the total reflux, and excess iso-butane becomes again available as an overhead product. At this point, the cycle starts in reverse: With decreasing reflux ratio, the iso-butane which has been stored in the column becomes again available, and tends to decrease the reflux ratio still further, finally reaching a value that permits an excessive amount of normal butane to pass overhead. During the remainder of the cycle off-specification iso-butane is produced until a point is finally reached when all the iso-butane has been taken out of the system, and a new cycle begins.

In order to eliminate this cycling process, it is necessary to control the reflux as a function of the amount of overhead product withdrawn so that the reflux ratio remains approximately constant regardless of the actual rate of withdrawal of the overhead product. A ratio controller on the reflux is probably the best means of accomplishing this. As long as the reflux ratio remains constant, or decreases slightly, as the rate of net overhead production decreases, the operation is stable, and no difficulties in cycling are encountered.

It should be pointed out that production of iso-butane is not economically feasible in every gasoline plant. Before proceeding with such a project, an analysis should be made of the potential feed of iso and normal butane to the iso-butane tower, since it is impossible even with the most elaborate fractionating system to recover all the iso-butane. In determining the net possible production of iso-butane it should be assumed that the normal butane produced will contain 3-4% of iso-butane. The minimum production of iso-butane which would be economically possible, depends, of course, on the available market price for the product, and anyone considering the installation of iso-butane fractionating system should investigate the market possibilities and the price per gallon which he might receive.

Two-Column Hook-Up Used

The first iso-butane installation reviewed consists of a two-column hook-up which was deemed advisable, due to the excess height of one column. The additional number of trays were required, due to the desire to keep the reflux ratio down to 15-1. In this particular plant tubular reflux condensers are mounted immediately above the respective columns. In these condensers water is pumped counter current with the gas to supply necessary cooling for condensing reflux which is gravitated back to the column. This method of handling reflux has both merits and demerits. Engineers, experienced in design and operation, disagree upon the method of handling reflux. Some advocate pumping, and others advocate gravitated reflux. You will also notice that in this particular plant, the iso-butane, normal butane fractionator consists of two towers of 3 foot x 30 plates operated in series. By continuously pumping bottoms from the primary tower to top plate of secondary tower, results obtained are comparable to results obtained with a continuous column of equal number of plates.

Table 2

Operating Conditions of Liquefied Petroleum Gases and Manufacturing Equipment Being Used At Natural Gasoline Plants in Mid-Continent Field

	Liquid Volume Per Cent
Methane and Ethane	12.48
Propane	10.22
Iso-butane	8.01
Normal butane	33.66
Pentanes and heavier	35.63
Total	100.00

This plant introduces to the fractionator 44,244 gallons per day of raw feed having the following analysis:

Salem Plant Operation

The last plant covered by this resume is that of the Warren Petroleum Corp. at Salem, Ill., which manufactures commercially pure propane, iso-butane and normal butane. The over-all cost of making the iso-butane cut is somewhat difficult to compute due to the merging of a great deal of the equipment between the iso-butane column and the other columns. This merging takes in the size of the cooling tower, pumping facilities, boiler capacities and size of buildings. However, computed as closely as possible, the following is probably a close estimate of the actual investment cost. It should be kept in mind that this was a new plant, designed for the manufacture of iso-butane and that an old plant, redesigned for the manufacture of this product, would necessitate the expenditure of perhaps two or three times this amount:

Initial cost of column and accessories	$35,000.00
50,000 gallons storage of 114 lbs. W.P.	10,000.00
Total	$45,000.00
Cost per gallon	11.25
Operating and maintenance cost per month	1,000.00
Cost per gallon	.0082

These figures, of course, do not take into consideration loading losses, tank car rentals or payment for gas, but represent only the manufacturing expense. Table 2 shows the various conditions of all of the columns.

The accompanying flow diagram of the Salem plant shows absorption gasoline received into a raw feed tank from which the fluid is pumped through heat exchangers into a "deethanizer" column. This column is not in a true sense a deethanizer since pure ethane is not refluxed and the temperatures and pressures are not sufficient for the liquefaction of pure ethane. An analysis of the overhead, at times, shows as much as 50% propane, and the column control is operated in such a manner that only such propane as can be sold is saved, treated, and stored. This practice is particularly recommended when there is a considerable amount of hydrogen sulfide present, as a large per cent of this undesirable material will be released in the primary column, thus saving much of the cost and operating headaches of corrosion treating. The overhead vapors pass through atmospheric condensers into a reflux accumulator and the volume of reflux that is not needed for refluxing the column goes to the air as waste product.

The base product, consisting of propane and heavier, is pressured through the treater plant at 175 pounds pressure for the hydrogen sulfide removal and for the sweetening of the gasoline to pass the doctor test. It is then pumped through heat exchangers into the second column. The specified gasoline is taken from the base of this second tower through coolers and into storage. The overhead vapors, consisting of iso and normal butane and propane, are condensed into the reflux accumulator. The excess reflux not needed for tower operation is pumped through heat exchangers into the third column termed "depropanizer". The propane vapors from overhead are condensed into the reflux accumulator, the excess reflux being propane goes through dehydrator to remove any suspended moisture and into storage. The butanes are pressured from the base of the depropanizer through heat exchangers into the fourth, or iso-butane column. The overhead vapors are condensed into the reflux accumulator, the

	SYSTEM			
Conditions	**Grade Gasoline**	**Depropanizer**	**Iso-Butane**	**Propane**
Size Columns	36" x 53'-10"	36" x 49'	2-3' x 60'	16" x 35'
Number of Trays	30	30	60	30
Operating Pressure Gauge	250 lbs.	250 lbs.	125 lbs.	350 lbs.
Kettle Temperature °F.	288°	194°	172°	155°
Temperature of Overhead	168°	127°	144°	100°
Volume of Feed	44,244	20,685	10,643	10,042
Volume of Overhead, gals.	20,685	10,042	3,544	5,521
Volume of Product, gals.	23,559	10,643	7,099	4,521
Point of Feed Entry, gals.	15th tray	15th tray	20th tray	10th tray
Location of Temp. Control	Kettle	8th tray	15th tray	5th tray
Location of Press. Control	Kettle	Kettle	60th tray	Kettle
Reflux Rate	2:5:1	5:1	15:1	1.6:1
Approx. Heat Load	50 H. P.	50 H. P.	42 H. P.	10 H. P.
Water Requirement	500 gal. min.	250 gal. min.	200 gal. min.	50 gal. min.

. . . THAT'S THE STORY! NOT 1 BUT 5!

Solve Not 1 but 5 Problems of Process Control with the New Taylor Fulscope Controller

YOU have a going business and a growing plant these days. So you've got a controller problem. It's too expensive to keep on buying completely different controllers. You need an instrument that's able to expand to meet your new needs. You need the new Taylor Fulscope Controller.

The new Taylor Fulscope Controller actually does expand! Right in the field, on the job, in your plant, the Taylor Fulscope you may have installed to control simple processing may be changed into a different instrument to handle more complicated controlling. The change-over is done by adding or substituting other unit assemblies in the same drilled and tapped Fulscope case. Transformation! Now your new Fulscope will control advanced processing involving temperature—or pressure—or liquid level—or rate of flow—or combinations—whatever *your* problem may be.

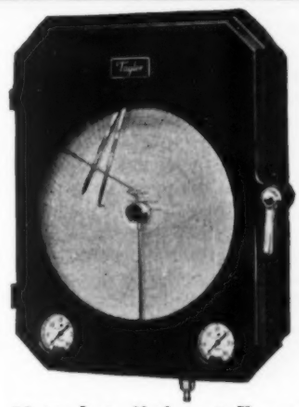
The new Taylor Fulscope Controller *is* new . . . completely redesigned, re-engineered, not just tinkered with and "improved." Its 5 available forms of control (listed, right) make it uniquely adaptable, efficient, economical—*and* essential to the quality speed-up all industry is demanding. Ask the Taylor man today. Or write Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada.

Be prepared with Taylor Instruments

Taylor

Indicating Recording Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS



***Not* 1, *but all these* 5 *Forms of Control Available in the* New Taylor Fulscope Controller**

1. Fixed High Sensitivity. **2.** Adjustable Sensitivity. **3.** Adjustable Sensitivity with Automatic Reset (in same case). **4.** Adjustable Sensitivity with Taylor's amazing Pre-Act effect. **5.** Adjustable Sensitivity with Automatic Reset and Pre-Act.

excess reflux as iso-butane goes through coolers to storage. The normal butane is taken from base of tower through coolers to storage.

In conclusion I might add that before any expenditures are incurred relative to the extraction of iso-butane at a natural gasoline plant, a great deal of thought should be given, not only to the possible income derived, but also to the engineering and data in connection with the actual construction and operation of the unit. One should realize that any iso-butane available, is in the raw make and not in the fractional analysis of the gas, that at least 20% of the available product will be lost in the various fractionators, and that even with the best operation, considerable difficulty is continually experienced in keeping the columns working in unison in order to produce a product meeting the expected specifications.

108,000 Gals. of Raw Feed Has the Following Analysis:

Methane	2.50
Ethane	7.40
Propane	21.58
Iso-Butane	5.09
Normal Butane	27.00
Pentane and Heavier	36.43
Total	100.00

SYSTEM

Condition	Deethanizer	Grade Gasoline	Depropanizer	Iso-Butane
Size Column	4-6 x 61'	4 x 55'	3 x 61'	4 x 85'
Number Trays	30	30	30	50
Operating Pressure	250 lbs.	140 lbs.	250 lbs.	125 lbs.
Kettle Temp. °F.	242	226-271	227	170
Top Temperature °F.	110	158	124	144
Reflux Ratio	6:1	5-5:1	6-5:1	17:1
Reflux Condensing Surface	1,560 sq. ft.	1,526 sq. ft.	1,060 sq. ft.	1,963 sq. ft.
Steam H.P. Required	165	152	66	97
Reboiler Surface	310 sq. ft.	310 sq. ft.	310 sq. ft.	660 sq. ft.

	Kettle Prod. G.P.D.	Overhead G.P.D.	Kettle Prod. G.P.D.	Overhead G.P.D.	Kettle Prod. G.P.D.	Overhead G.P.D.	Kettle Prod. G.P.D.	Overhead G.P.D.
Methane	.....	2,700	.....	.....	.....	.....	.....	.....
Ethane	.....	7,992	.....	.....	.....	.....	.....	.....
Propane	10,000	13,308	.....	10,000	.....	10,000	.....	.....
Iso-Butane	5,500	.....	.....	5,500	5,500	.....	.....	5,500
Normal Butane	8,000	.....	.....	8,000	8,000	.....	8,000	.....
Pentane and Heavier	60,500	.....	60,500	.....	.....	.....	.....	.....
TOTAL	84,000	24,000	60,500	23,500	13,500	10,000	8,000	5,500

Standardize Engine Tests For Heavy-Duty Motor Oil

(*Continued from page R-150*)

for lubricating oils for severe service on heavy duty operations.

The metallic soap additions, such as calcium, the naphthenates and the stearates, used as detergents to prevent ring sticking, gave good results in the Caterpillar but lowered the oxidation resistance of the finished oil so that it was very corrosive to the lead-bronze-lined bearings of the GMC 71 diesel engine and other copper-lead or cadmium-silver bearing equipped engines. The inhibited oils gave good performance on the Chevrolet engine operated at high crankcase temperatures. Only recently was it possible to furnish one lubricant which has anti-ring sticking or detergent properties and which is inhibited against corrosion of bearings and oxidation or lacquer.

These new type severe service or heavy duty motor oils pass satisfactorily the Caterpillar diesel engine tests and also the GMC 71 diesel engine test procedure. They differ in that the detergent calcium, barium or tin compounds are in the form of a metal and generate the soap for detergency with oxidized oil as needed to prevent ring sticking and corrosive constituents are not present. The inhibitor is either added separately or is combined with the calcium and the finished oil may be strongly alkali (8 plus neutralization number basic). Even after considerable operation the used oil does not show acid reaction. The ash content (calcium) might show 0.5% by weight. The carbon content of the new base oil is 0.5 yet the finished oil shows 1.25 carbon residue.

Higher film strength is also streamlined into these oils and the tendency is to use Pennsylvania or high V. I. mineral base oils for such. This was not possible in the former diesel crankcase oils which functioned best with naphthenic base oils. The standardization around an SAE 30 grade is made possible because of cold engine easier starting properties of such high V.I. oils.

The benefits of such new heavy duty or extreme service motor oils are:

1—to provide satisfactory lubrication regardless of the severity of service, to all engine parts whether diesel or gasoline.
2—freedom from ring sticking.
3—non-corrosive to bearings and engine parts.
4—non-clogging of oil channels.
5—keep ring and cylinder wear down to a minimum.
6—reduce piston and liner lacquers.
7—quality not adversely affected by mechanical or fibrous type filters or by centrifugal purifications.
8—addition of new heavy duty oil to same used oil shall not cause sludging or adversely affect the quality of the new or used oil.
9—no excessive carbon deposits on any part of the engine.
10—increased number of hours of crankcase oil drain periods.
11—the above qualities rendered to all engines in severe or normal service.

INDEX TO ADVERTISERS

Refining Technology Section

(*See also page 47*)

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions

Alcorn Combustion Co. .....
American Asphalt Paint Co. .....
American Meter Co. R-160
Badger & Sons Co., E. B. .....
Chicago Bridge & Iron Co. .....
Cross & Brown Co. .....
du Pont de Nemours & Co., E. I. .....
Filtrol Corp. R-159
Gasoline Products Corp. .....
Graver Tank & Mfg. Co., Inc. .....
Gray Processes Corp. .....
Hanlon Buchanan, Inc. .....
Hooker Electrochemical Co. .....
Jenkins Petroleum Process Co. .....
Johns-Manville Co. R-155
Johnston & Jennings Co. .....
Kellogg Co., M. W. R-149
Lummus Co. .....
Merco Nordstrom Valve Co. .....Insert
Perco Division, Phillips Petroleum Co. .....
Petroleum Rectifying Co. of Calif. R-151
Prichard Co., J. F. .....
Shell Development Co. .....
Sun Shipbuilding & Dry Dock Co. .....
Taylor Instrument Companies R-157
Universal Oil Products 11